FAX-280
FAX-T400
SERVICE MANUAL

REVISION 1

Canon

JAN. 1992

HY8-2321-011

 CANON FAX-280/FAX-T400 REV.1 JAN. 1992 PRINTED IN JAPAN (IMPRIME AU JAPON)

1 SERVICE PRECAUTIONS

1.1 Before turning the main power to OFF:

When the main power of this unit is turned OFF, the memory reception images and a part of the registered data are cleared. Before turning off the main power for servicing, check and retrieve the stored data. The contents that are cleared when the main power is turned off are listed in the table below.

Tab. 1 Cleared contents when the power is turned off

NO.	Mode	Cleared contents
1	Memory reception	Image data received in memory
2	Memory transmission	Image data and transmission reservation
3	delayed transmission (delayed broadcasting)	Image data and transmission reservation
4	delayed (multi) polling	Communication reservation
5	Confidential mailbox	Data registered for confidential transmission. (except when registered in one-touch or coded speed dialing.)
6	Relay broadcasting control	Data registered for relay broadcasting control. (except when registered in one-touch or coded speed dialing).
7	Confidential mailbox reception	Confidentially received images

Note) The delayed transmission, confidential mailbox and relay broadcasting control data are cleared after one communication is completed.

CAUTION: Replace the lithium battery only with the one listed in the Parts Catalog.
Use of another battery may present a risk of fire or explosion. The battery may present a fire or chemical burn hazard if mistreated. Do not recharge, disassemble or dispose of in fire. Keep the battery out of reach of children and discard used battery promptly.

CONTENTS

1 FEATURES

1. **Auto Dialing**
   One-touch speed dialing is available up to 24 locations and coded speed dialing up to 100 locations.
   - In one-touch speed dialing and coded speed dialing, partner's name, communication mode (incl. transmission speed), relay broadcasting control transmission or confidential transmission, etc. can be registered.

2. **Memory reception**
   Even if a recording paper run out during reception, image the reception is stored in the memory.
   (Approximately 14 A4 standard documents (CCITT No. 1 chart) can be received in memory in standard mode.)

3. **High image quality**
   Document reading performance is greatly improved by a new image processing system which uses edge emphasis and error diffusion method. Fine lines and other minute details on a document can be read out. Halftone image is also improved.

4. **Error Correction Mode (ECM)**
   Communication is possible in the ECM mode, which is the CCITT-recommended image error retransmission method.

5. **Confidential mailbox communication**
   Confidential mailbox communication is possible. In the confidential mailbox reception, it is possible to receive as many as 14 sheets of documents in A4 standard size. (CCITT No. 1 Chart)

6. **FAX/TEL switching function**
   This is a function which recognizes whether it is a telephone or fax call in the automatic reception mode and selects automatically either TEL or FAX accordingly.
   There are two types of functions. One is a CNG detecting F/T switching function, and the other one is a voice detecting switching function. These functions are selected according to the SSSW setting.

7. **Convenient functions**
   Convenient functions include the following: auto feeder, auto cutter, multi- copying, redialing, memory transmission, sequential broad-casting, multipolling, delayed-multipolling, relay broadcasting control (effective only with other parties who have a Canon unit with relay broadcasting function).

8. Names of up to nine different individuals can be registered, which, together with the user's ID, makes ten selections possible.

9. **Recording paper non-curling function**
   By using a new mechanism (the active non-curl mechanism), curling of the recording paper can be almost completely eliminated.

10. **Remote reception [FAX-T400 only]**
    This is a function which enables switching to the automatic reception by the on-hook operation or hooking operation of the hand set in the manual reception mode. Hooking method and on-hook is selected according to the SSSW setting.

2 SPECIFICATIONS

<table>
<tr><th>No.</th><th>Item</th><th>Contents</th></tr>
<tr><td>1</td><td>Type</td><td>Facsimile transceiver</td></tr>
<tr><td>2</td><td>Unit configuration</td><td>Desktop type</td></tr>
<tr><td>3</td><td>Applicable lines</td><td>Public switched telephone line
Leased line (option)</td></tr>
<tr><td>4</td><td>Transmission system</td><td>Half-duplex</td></tr>
<tr><td>5</td><td>Document width</td><td>Max. 222mm
Min. 148mm</td></tr>
<tr><td>6</td><td>Min. document length</td><td>105mm</td></tr>
<tr><td>7</td><td>Document thickness</td><td>0.06~0.13mm</td></tr>
<tr><td>8</td><td>Document reading method</td><td>Solid horizontal scanning by CCD linear image sensor</td></tr>
<tr><td>9</td><td>Effective reading width</td><td>208mm</td></tr>
<tr><td>10</td><td>Effective recording width</td><td>208mm (G3)
205mm (G2)</td></tr>
<tr><td>11</td><td>Recording paper size (Anti-static type only)</td><td>210 mm (A4 size) x 100m roll paper</td></tr>
<tr><td>12</td><td>Scanning line density (Reading)</td><td>Horizontal scanning : 8 pels/mm
Vertical scanning :

<table><tr><th></th><th>Resolution</th><th>Density (lines/mm)</th></tr><tr><td rowspan="3">G3</td><td>Standard</td><td>3.85</td></tr><tr><td>Fine</td><td>7.7</td></tr><tr><td>Superfine</td><td>15.4</td></tr><tr><td>G2</td><td>—</td><td>3.85</td></tr><tr><td>Copy</td><td>Superfine</td><td>15.4</td></tr></table></td></tr>
</table>

<table>
<tr><th>No.</th><th>Item</th><th>Contents</th></tr>
<tr><td>13</td><td>Scanning line density (Recording)</td><td>Horizontal scanning : 8 pels/mm
Vertical scanning :
<table><tr><th></th><th>Resolution</th><th>Density (lines/mm)</th></tr><tr><td rowspan="3">G3</td><td>Standard</td><td>3.85</td></tr><tr><td>Fine</td><td>7.7</td></tr><tr><td>Superfine</td><td>15.4</td></tr><tr><td>G2</td><td>—</td><td>3.85</td></tr><tr><td>Copy</td><td>Superfine</td><td>15.4</td></tr></table></td></tr>
<tr><td>14</td><td>Half tone</td><td>Half tone by the error diffusion method</td></tr>
<tr><td>15</td><td>Minimum transmission time (MTT)</td><td>Standard : 10ms (5ms when all white)
Fine, Superfine : 5ms</td></tr>
<tr><td rowspan="2">16</td><td>Modulation system (Image signal)</td><td>G3: CCITT V.29 (9600/7200bps)
V.27ter (4800/2400bps)
G2: AM-PM-VSB (Carrier frequency 2100Hz)</td></tr>
<tr><td>(Transmission protocol)</td><td>G3: CCITT V.21 (No.2) 300bps
G2: Tonal signal</td></tr>
<tr><td>17</td><td>Transmission output level</td><td>0 ~ –15dBm (Adjustable at every 1dBm)</td></tr>
<tr><td>18</td><td>Reception input level</td><td>0 ~ –43dBm</td></tr>
<tr><td>19</td><td>Input-output impedance</td><td>600 ± 30% (0.3 ~ 3.4kHz)</td></tr>
<tr><td>20</td><td>Compression system</td><td>G3: MMR, MR, MH, CBT, LST method</td></tr>
<tr><td>21</td><td>Mutual transmission</td><td>CCITT G3/G2</td></tr>
<tr><td>22</td><td>Error correction function</td><td>ECM (CCITT-standard)
CHT (At receiving only)</td></tr>
<tr><td>23</td><td>Automatic document feed (ADF)</td><td>A4, LTR size: Max. 30 sheets</td></tr>
<tr><td>24</td><td>Communication report</td><td>Transmitter's terminal identification, Transaction report, Activity report (40 communications)</td></tr>
<tr><td>25</td><td>LCD</td><td>Display of connected ID/telephone no. (year, month, day, hour, minute/operation mode)</td></tr>
</table>

No.	Item	Contents
26	Aumatic dialing	One-touch : 24 locations Coded : 100 locations Numeric-key dialing Manual redialing function
27	Memory transmission	About 14 document sheets (CCITT No.1 chart: standard mode) can be stored in memory. (The number of pages stored in memory differs with the mode (Standard/Fine/ Superfine) and the blackness percentage of the document.) The memory used for the memory transmission is the common memory allocated for ECM transmission.
28	Sequential broadcasting	Maximum of 125 locations at one time. (one-touch: 24, coded: 100, numeric key: 1)
29	Delayed transmission	One start time can be registered. Maximum of 125 locations (memory Tx)
30	Multipolling reception	Maximum of 125 locations ID verification is at 8 bits
31	Delayed multipolling reception	Maximum of 125 locations
32	Memory reception	About 14 document sheets (CCITT No.1 chart: standard mode) can be stored in memory. (The number of page stored in the memory differs with the mode (Standard /Fine/Superfine) and the blackness percentage of the document) The memory used for the memory reception is the common memory allocated for the ECM transmission.
33	Confidential mailbox communication	Confidential mailbox transmission is possible to a receiver which has the confidential mailbox reception function (e.g. FAX-730). Confidential mailbox reception is possible when the caller is provided with confidential mailbox transmission function. The memory used for the confidential mailbox reception is to employ the common memory allocated for the ECM transmission.

No.	Item	Contents
34	Relay control broadcasting	Images can be transmitted to a receiver which has the relay transmission function (e.g. FAX-730) and it can transmit the same images to multiple addresses.
35	FAX/TEL switching function	It is possible to automatically recognize whether the caller is a FAX or TEL call and automatically select either FAX or TEL mode.
36	Activate remote RX (FAX-T400 only)	It is possible to change over to the automatic reception by the on-hook operation of the hand set in the manual reception.
37	Closed network	Closed network denotes a limited network communication among a limited number of correspondents using a predetermined 8-character ID number.
38	Printing the reception time	The reception time from its own real-time clock is printed at the end of the image page received.
39	Recording paper indicator	The amount of recording paper remaining is checked through a window on the recording paper cover.
40	Handset	Using the numeric-key pad shared by the DP and PB.
41	Applicable environment conditions	Temperature 5 ~ 35°C Humidity 20 ~ 85% (RH)
42	Applicable power source	AC 230V 50Hz
43	Power consumption	Standby (average value) 12W ± 30% at room temperature 20°C During operation, max. 100W ± 20% with all-black copy
44	External dimensions	361 (W) × 349 (D) × 147 (H) mm 324 (W) × 392 (D) × 151 (H) mm
45	Weight	Approx. 7.8kg (including handset)
46	DC resistance	260Ω or less
47	Fuse rating	Electric current value: 3.15A Voltage value : AC 250V
48	Processor	MPU μPD70216G (V.50)
49	ROM	1M bit × 2
50	Timer precision	Within ± 30 sec per month

1 NORMAL OPERATION/REGISTRATION/SETTING

1.1 When performing normal operation, registration and setting

What follows here is a brief description of operating procedure.
For detailed operations other than service soft switches, refer to the Instruction Book.

* Turn the Registration switch to ON before carrying out any registration or setting. If registration or setting is done with this switch left at OFF, the following is displayed:

REGISTRATION KEY ON REAR PANEL OFF → ON

Always turn the registration switch back to OFF after completion of any registration or setting. (Factory setting is OFF)

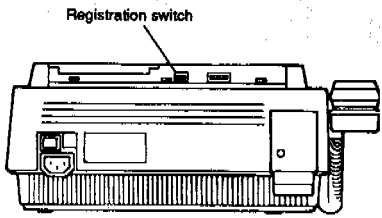


Fig. 2-1-1 Registration switch

1.2 Key Arrangement on the Operation Panel

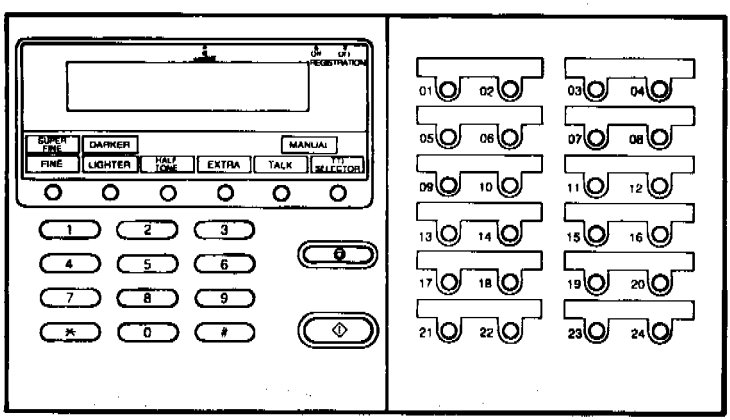


Fig. 2-1-2 Key arrangement 1

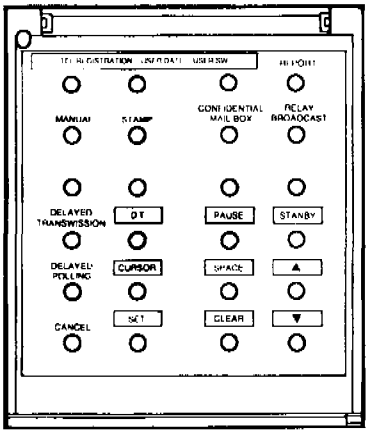


Fig. 2-1-3 Key arrangement 2

1.3 Meaning of Symbols and Keys

Tab. 2-1-1 Symbols/keys meaning

Key/symbol	Meaning
[ ]	Details of what the operator should operate.
< >	Details of what the machine does automatically.
(oval)	**Details displayed on the LCD** (May not be exactly the same as what actually displayed.)
01 ~ 24	Indicates one-touch key Note:Indicates 01 ~ 24 in operation flowcharts.
*00 ~ *99	Indicates coded speed dialing *00 to *99, which is input from the ten key.
□□ ... □	Indicates dialing by ten key.
#	Indicates the # key. Used for manual redialing.
✳	Indicates the ✳ key. Used for coded speed dialing.
STOP	Indicates the STOP key. Used to erase faulty operations or error displays and to return the unit to standby.
START	Indicates the START key. Used when transceiving documents, copying or cutting recording paper.

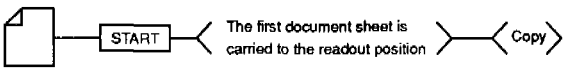
<table>
<tr><th>Key/symbol</th><th>Meaning</th></tr>
<tr><td>FINE/SUPER FINE</td><td>Indicates the FINE/SUPER FINE key. Used to change over the reading mode as follows.
<table><tr><th>Image mode / LED</th><th>Standard</th><th>FINE</th><th>SUPER FINE</th></tr><tr><td>LIGHTER</td><td>OFF</td><td>ON</td><td>OFF</td></tr><tr><td>DARKER</td><td>OFF</td><td>OFF</td><td>ON</td></tr></table></td></tr>
<tr><td>DARKER/LIGHTER</td><td>Indicates the DARKER/LIGHTER key. Used to change the image density in transmission, and copy operation as follows.
<table><tr><th>Image mode / LED</th><th>Standard</th><th>FINE</th><th>SUPER FINE</th></tr><tr><td>FINE</td><td>OFF</td><td>ON</td><td>OFF</td></tr><tr><td>SUPER FINE</td><td>OFF</td><td>OFF</td><td>ON</td></tr></table></td></tr>
<tr><td>TTI SELECTOR</td><td>Indicates the TTI SELECTOR key. Used to select the transmitting individual's name.</td></tr>
<tr><td>EXTRA</td><td>Indicates the EXTRA key. When the EXTRA LED is on, reading width becomes 214mm.</td></tr>
<tr><td>TEL REGISTRATION</td><td>Indicates the TEL REGISTRATION key. Used to register dialing.</td></tr>
<tr><td>USER DATA</td><td>Indicates the USER DATA key. Used to register user data.</td></tr>
</table>

Key/symbol	Meaning
USER SW	Indicates the USER SW key. Used to register user soft switch.
DELAYED TRANSMISSION	Indicates the DELAYED TRANSMISSION key. Used for delayed transmission.
DELAYED POLLING	Indicates the DELAYED POLLING key. Used for delayed polling.
DELAYED TX/POLLING	Indicates the DELAYED TX key and the DELAYED POLLING key. When pressing this key once, the machine is set into the delayed transmission function and when pressing this key twice, the machine is set into the delayed polling function.
REPORT	Indicates the REPORT key. Used when outputting the data.
RELAY BROADCAST	Indicates the RELAY BROADCAST key. Used for relay broadcasting control tranmission and reception
CONFIDENTIAL MAILBOX	Indicates the CONFIDENTIAL MAILBOX key. Used for confidential transmission.
RELAY BROADCAST CONFIDENTIAL MAILBOX	Indicates the CONFIDENTIAL MAILBOX key and the RELAY BROADCAST key. When pressing this key once, the machine is set into the confidential mail box function and when pressing this key twice, the machine is set into the relay broadcast function. We have indicated this key as RELAY/CONFID. in the operation flowchart.

Key/symbol	Meaning
CANCEL	Indicates the CANCEL key. Used during redialing or to suspend multi polling reception.
PAUSE	Indicates the PAUSE key. Used to enter a pause during telephone number registration.
STANDBY	Indicates the STANDBY key. Used to return the unit to the standby mode.
CURSOR	Indicates the CURSOR key. Used to move the displayed cursor one position to the right.
SPACE	Indicates the SPACE key. Used to enter a space during registration of telephone number, user name, etc.
SET	Indicates the SET key. Used to select or set each menu.
CLEAR	Indicates the CLEAR key. Used to clear telephone numbers or all types of parameters before or during registration.
MANUAL	Indicates the MANUAL key. When the manual LED is on, manual reception comes into effect.
▲ ▼	Indicates the SEARCH keys. Used to search registered contents and menus.
☎	Indicates dialing with main telephone unit.
	Indicates document setting.
D • T	Second Dial Tone (SDT) detection key. LCD display "●".

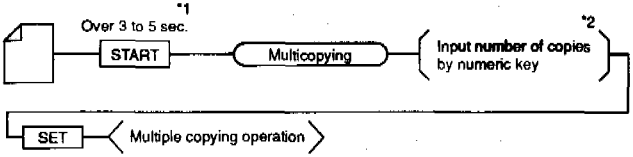
1.4 Usual Operation Flowchart

1.4.1 Copying



*The super-fine mode is always used in copying.

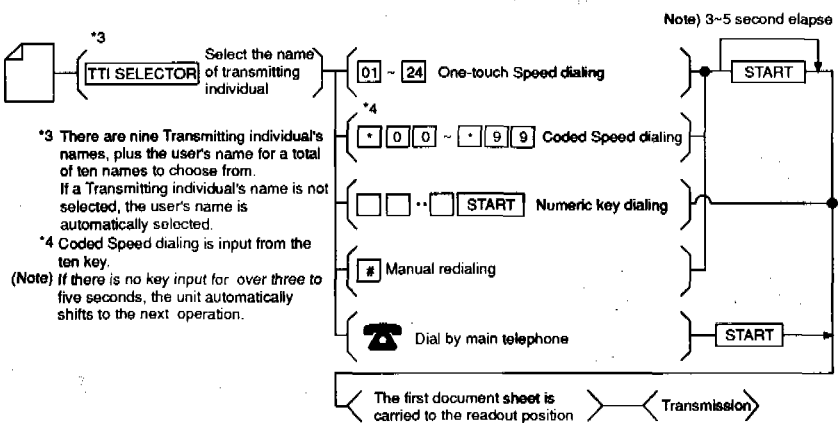
1.4.2 Multicopying



*1 Press the START key for 3 to 5 seconds.

*2 Up to 99 copies can be made in multicopying operation.

1.4.3 Direct Transmission

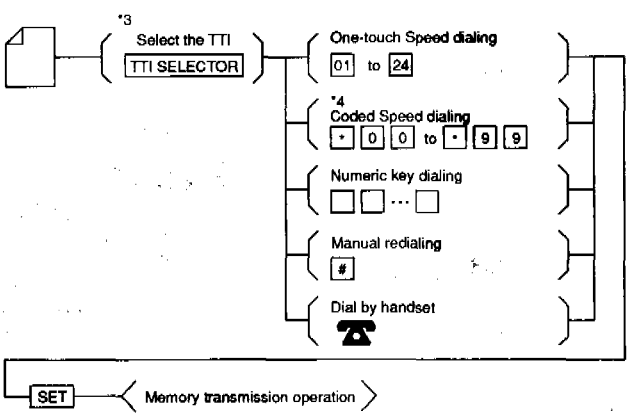


*3 There are nine Transmitting individual's names, plus the user's name for a total of ten names to choose from. If a Transmitting individual's name is not selected, the user's name is automatically selected.

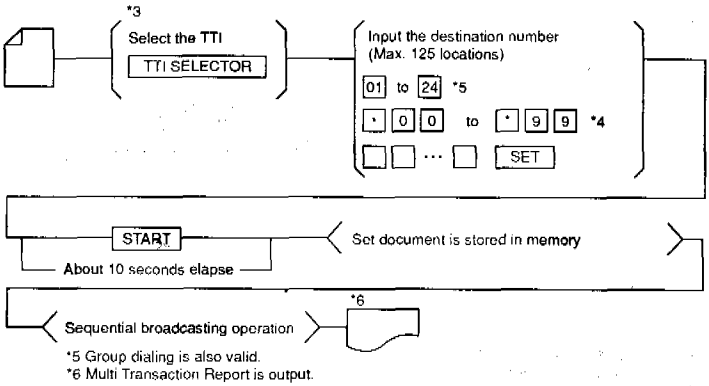
*4 Coded Speed dialing is input from the ten key.

(Note) If there is no key input for over three to five seconds, the unit automatically shifts to the next operation.

1.4.4 Memory Transmission



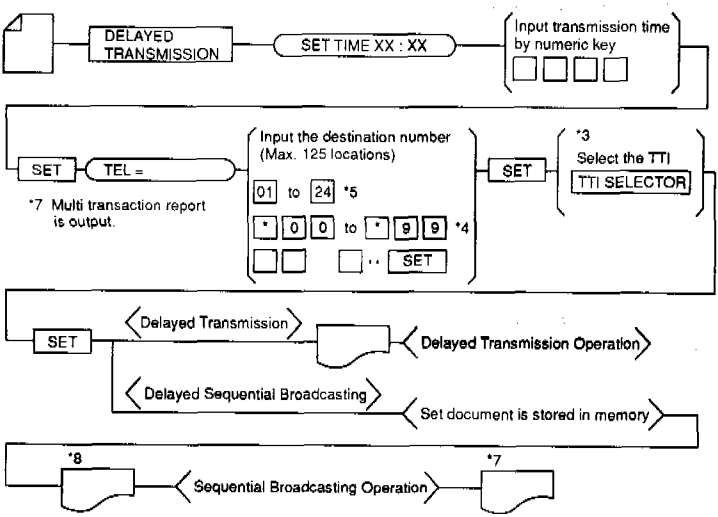
1.4.5 Sequential Broadcasting



*5 Group dialing is also valid.
*6 Multi Transaction Report is output.

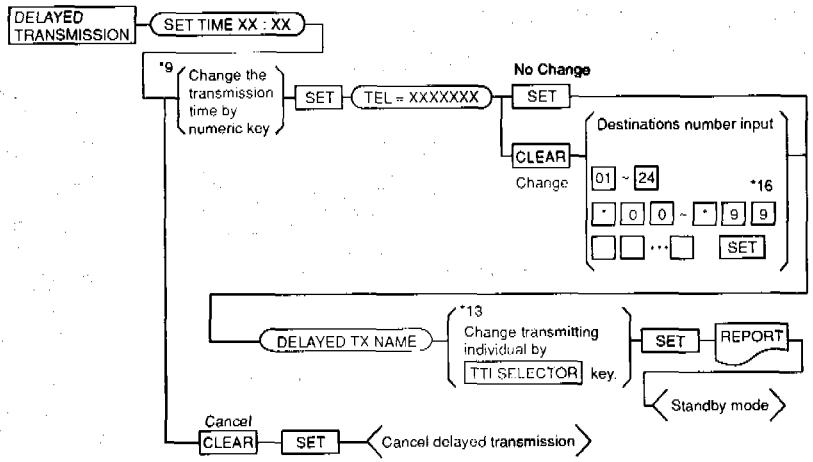
1.4.6 Delayed Transmission/Delayed sequential broadcasting

(1) Method For Setting Delayed Transmission and Delayed Sequential Broadcasting



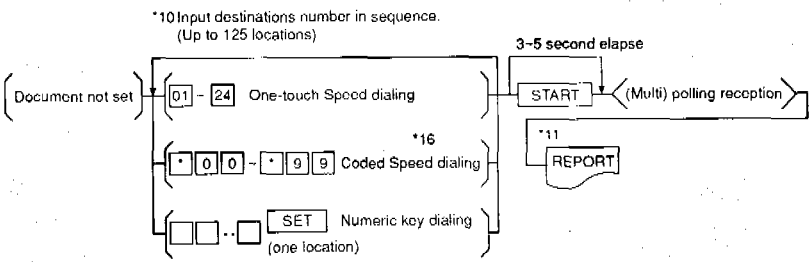
*8 Transaction schedule is output

(2) Method For Changing And Cancelling Delayed Transmission and Delayed Sequential Broadcasting (Delayed Sequential Broadcasting cannot be changed.)



*9 Proceed to the next step after pressing SET key if there is no need to change.

1.4.7 (Multi) Polling Reception



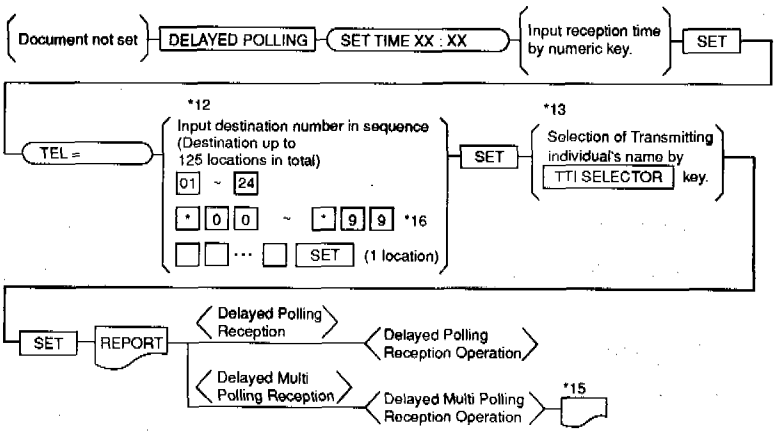
*10 One-touch Speed dialing 24 locations
Coded Speed dialing 100 locations
Ten key dialing 1 location
} 125 locations in total

*11 In multipolling reception, multipolling report is output after all receptions are completed.

* If during multipolling reception STOP key is pressed, only the current reception is stopped.
Transmissions from the remaining partners are received in sequence. To clear all reception, press the STOP key and CANCEL key.

1.4.8 Delayed (Multi) Polling Reception

(1) Method For Setting Delayed (Multi) Polling Reception



*12 One-touch Speed dialing 24 locations
Coded Speed dialing 100 locations
Ten key dialing 1 location
} 125 locations in local

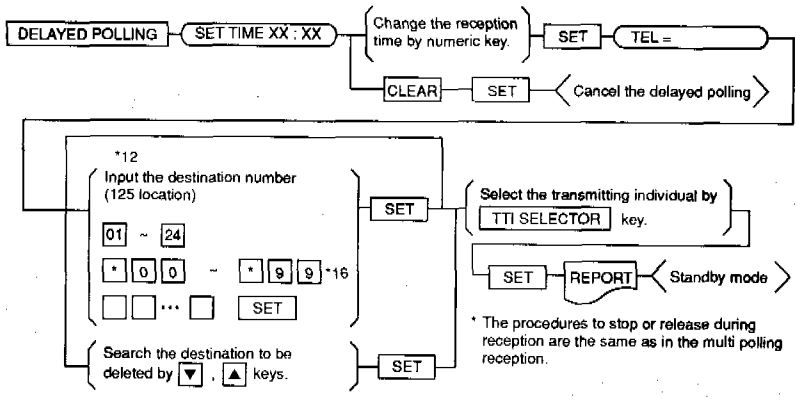
*13 There are nine Transmitting individual's names, plus the user's name for a total of ten names to choose from. If a Transmitting individual's name is not selected, the user's name is automatically selected.

* The Delayed polling mode is not cleared, even after the operation is finished, unless the mode is cancelled.

*15 Multi transaction report is output

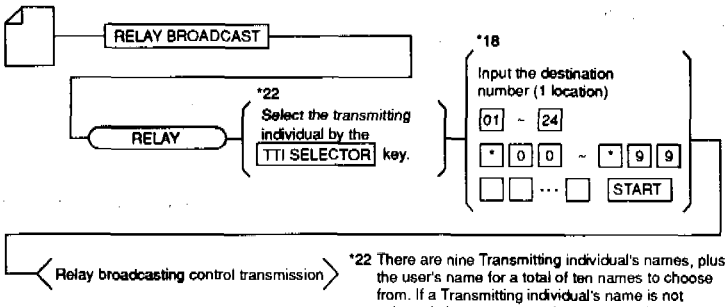
*16 Coded speed dialing is input from the ten key. If there is no key input for over three to five seconds, the unit automatically shifts to the next operation.

(2) Method For Changing And Cancelling Delayed (Multi) Polling (Delayed Multi Polling cannot be changed)



* The procedures to stop or release during reception are the same as in the multi polling reception.

1.4.9 Relay Broadcasting Control Transmission

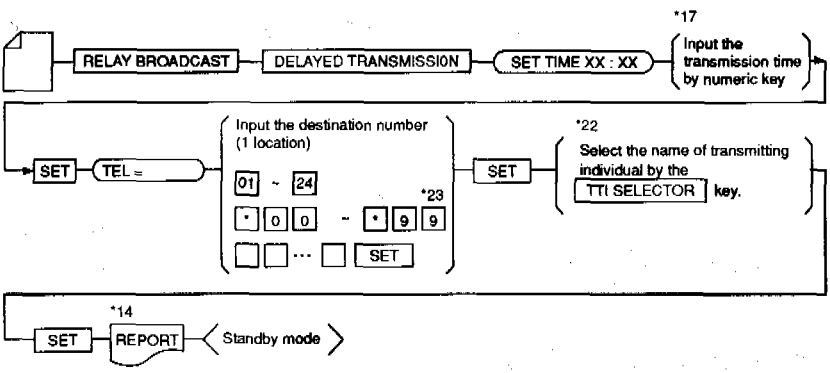


*22 There are nine Transmitting individual's names, plus the user's name for a total of ten names to choose from. If a Transmitting individual's name is not selected, the user's name is automatically selected.

*18 When a one-touch speed dialing and coded speed dialing are used which has been set for confidential mailbox transmission, "NOT AVAILABLE NOW" is displayed. Then another one-touch speed dialing and coded speed dialing must be used.

* When a one-touch speed dialing and coded speed dialing are used for which relay broadcasting control transmission with designated time has been registered, transmission does not take place until arrival of the designated time.
* Relay broadcasting control transmission is automatically cancelled when is completed.
* In order to stop transmission press STOP key.

1.4.10 Delayed Relay Broadcasting Control Transmission



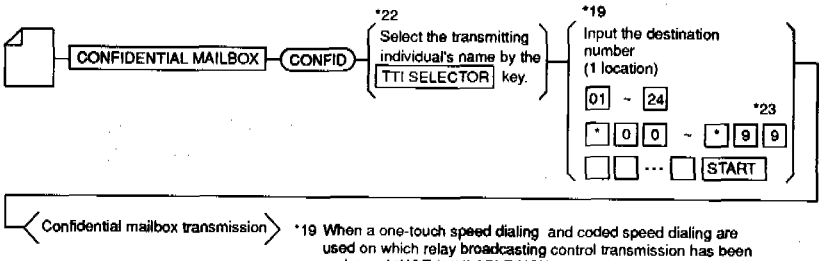
*14 Transaction schedule is output

*17 Proceed to the next stop after pressing SET key if there is no need to change

*23 Coded speed dialing is input from the ten key. If there is no key input for over three to five seconds, the unit automatically shifts to the next operation.

* For cancellation and change of delayed relay broadcasting control transmission, *refer to procedures for cancellation and change for delayed transmission.*

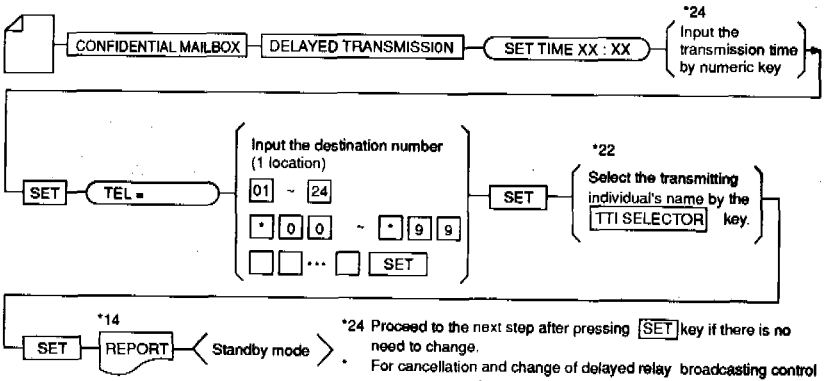
1.4.11 Confidential Mailbox Transmission



*19 When a one-touch speed dialing and coded speed dialing are used on which relay broadcasting control transmission has been registered "NOT AVAILABLE NOW" is displayed. Then another one-touch and coded speed dialing must be used.

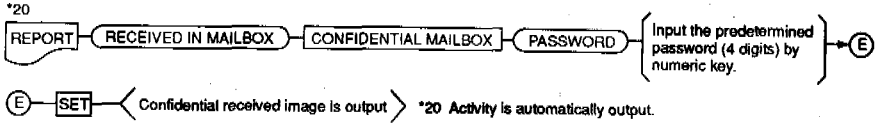
- When a one-touch speed dialing and coded speed dialing are used for which time-designated confidential mailbox transmission has been set, there is no transmission until the designated time.
- The box No. of confidential mailbox transmission is automatically set at "00." Box No. can be designated on the one-touch speed dialing only.
- When a confidential mailbox transmission has been completed, the set data for that transmission is cancelled.
- In order to stop transmission, press STOP key.

1.4.12 Delayed Confidential Mailbox Transmission



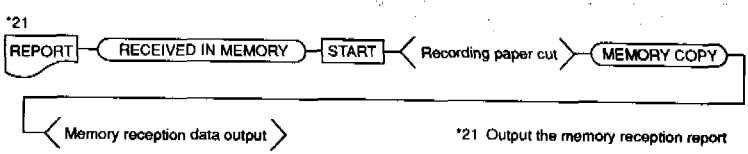
*24 Proceed to the next step after pressing SET key if there is no need to change.
For cancellation and change of delayed relay broadcasting control transmission, refer to procedures for cancellation and change for delayed transmission.

1.4.13 Confidential Mailbox Reception



*20 Activity is automatically output.

1.4.14 Memory Data Output



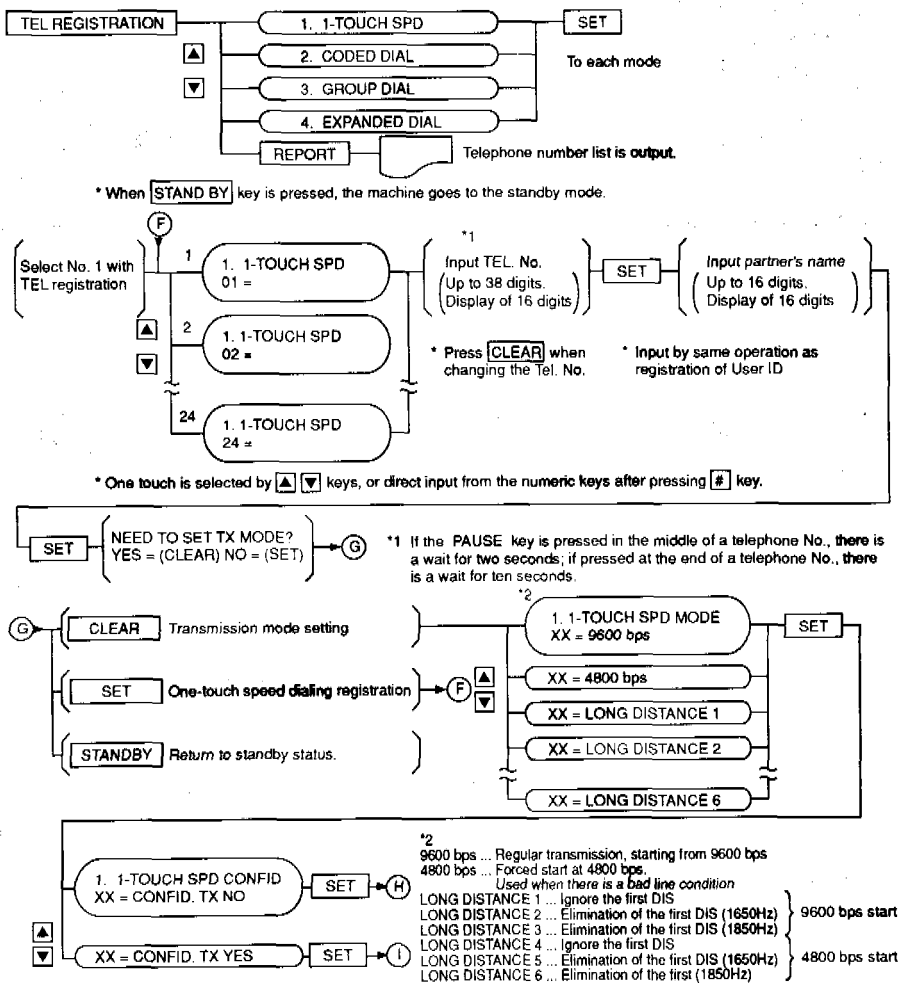
*21 Output the memory reception report

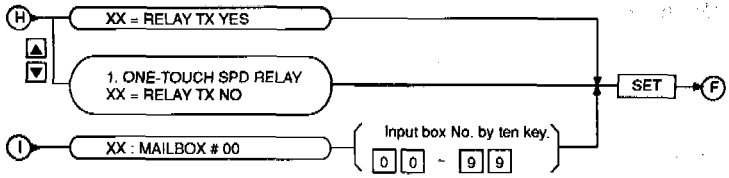
1.5 Setting/Registration Method (Including Explanation of Soft Switches)

1.5.1 Telephone Registration

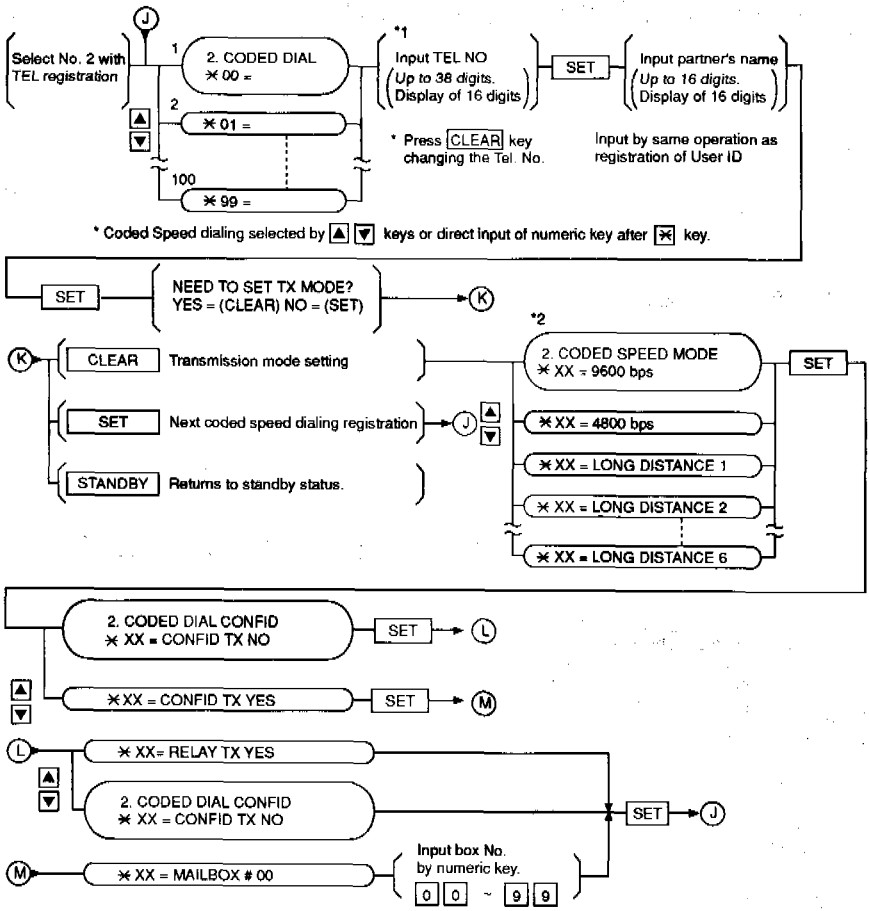
The TEL Registration mode is established by pressing the TEL REGISTRATION key without documents set on the machine.
In the TEL Registration mode, the following items can be registered.

(1) One-touch Speed dialing
(2) Coded Speed Dialing
(3) Group dialing
(4) Expanded dialing



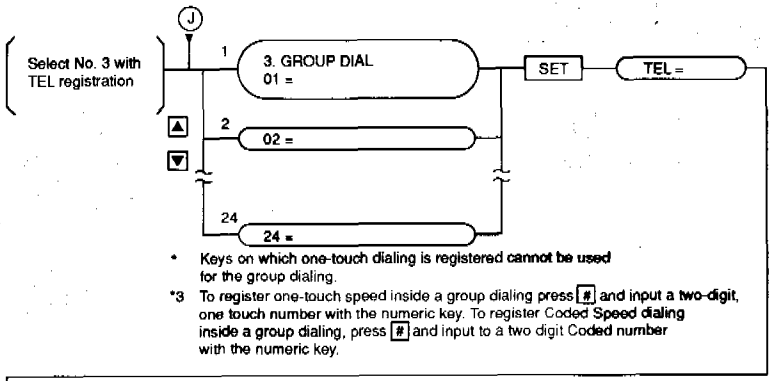


(2) Coded Speed Dial Registration



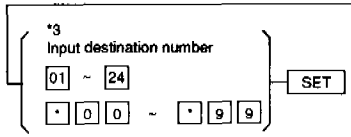
(3) Group dialing registration

Group dialing is used in multipolling.



* Keys on which one-touch dialing is registered cannot be used for the group dialing.

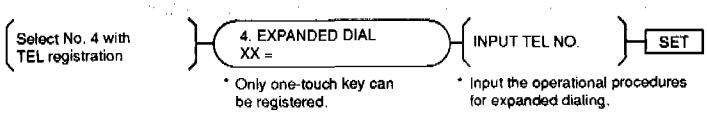
*3 To register one-touch speed inside a group dialing press [#] and input a two-digit, one touch number with the numeric key. To register Coded Speed dialing inside a group dialing, press [#] and input to a two digit Coded number with the numeric key.



* Up to 123 destination per one group
* Repetition until one of the following keys is pressed: STANDBY STOP

(4) Expanded Dialing Registration

All destinations in expanded dialing operation are registered by one touch dial.



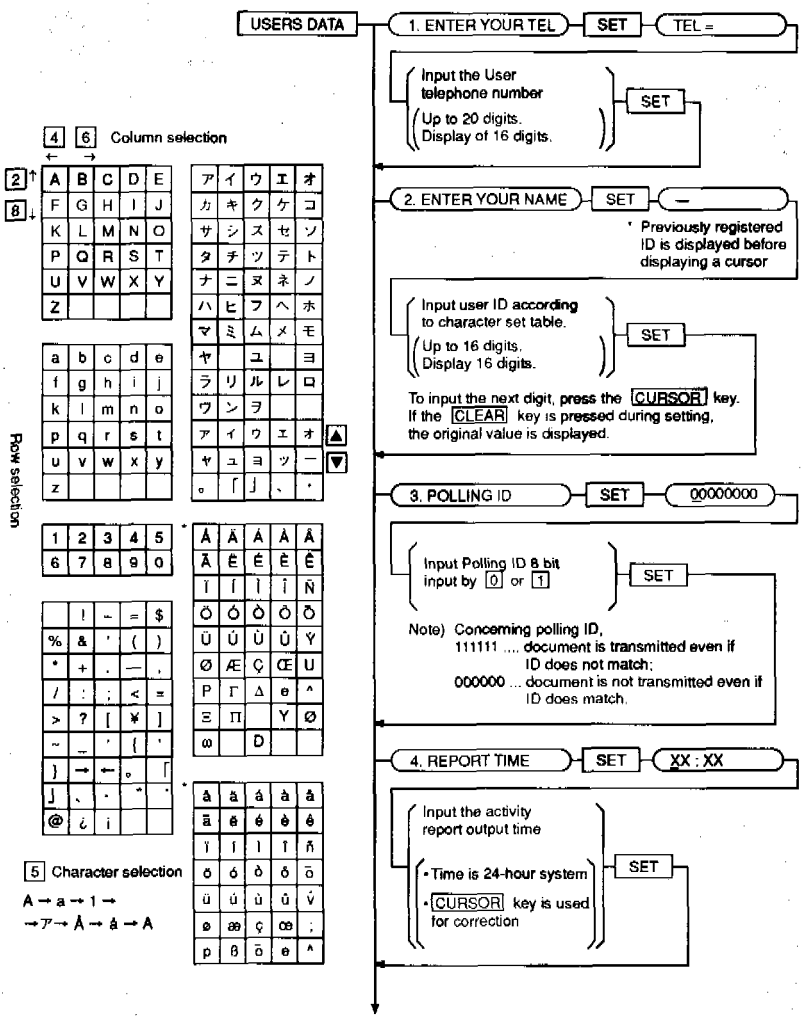
Note) • Expanded dialing can be registered on any one of keys 01 – 24. Keys already registered for one-touch dialing can not be used for expanded dialing key. One-touch key to be registered for expanded dialing is selected by press [▼], [▲] or by ten-key after pressing the [#] key.

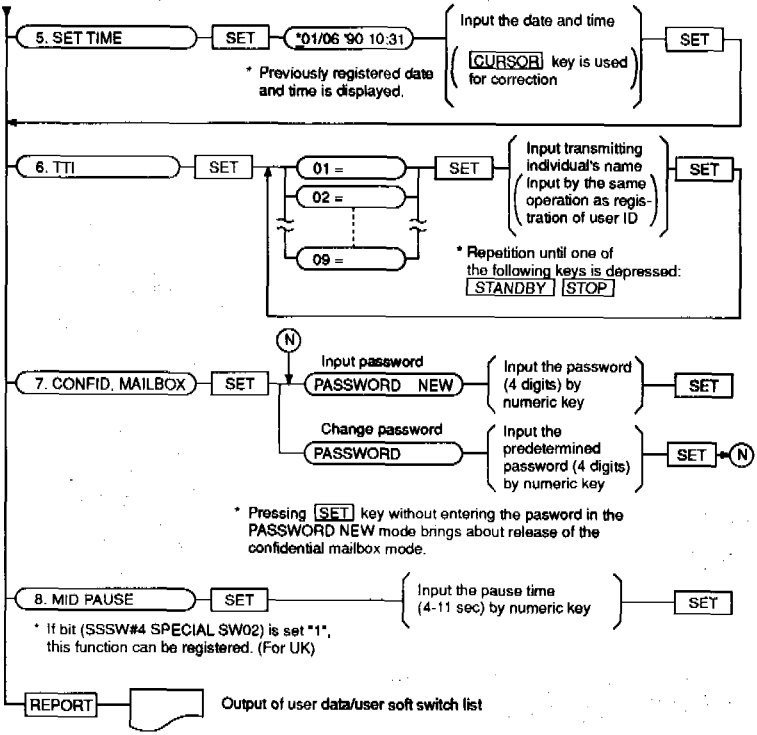
* TEL No. can be registered up to 118 digits.

1.5.2 User data registration

The user data registration mode is established by pressing the USER DATA key without documents being set. The following items can be registered in the user data registration mode:

1) User telephone Number.
2) User ID
3) Polling ID
4) Acitivity report output time
5) Date and time
6) Transmitting individual's Name.

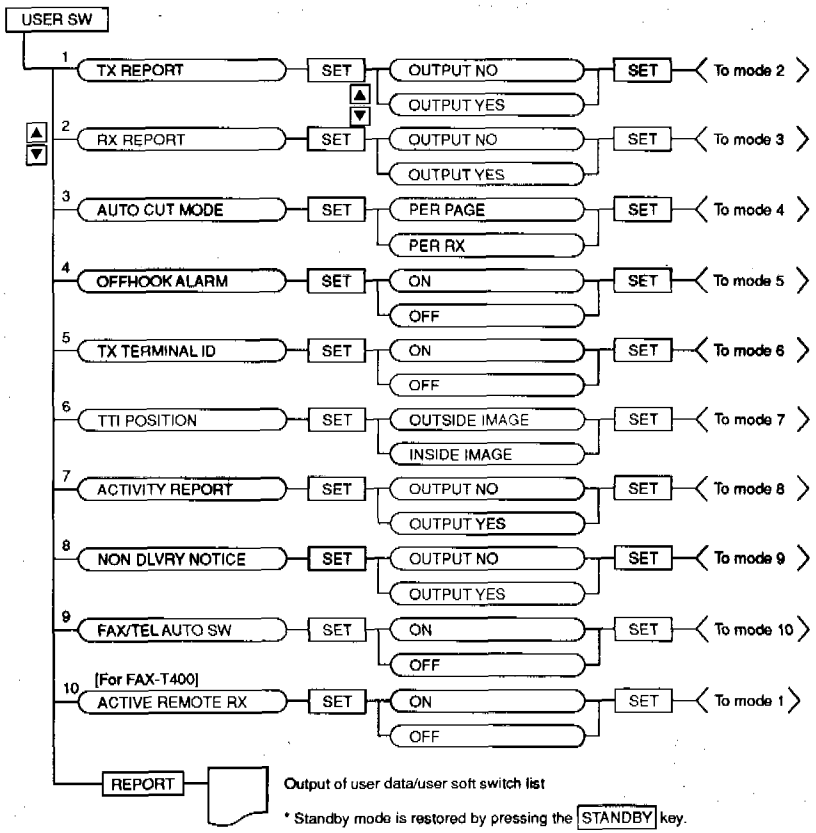



5. SET TIME
SET
*01/06 '90 10:31
Input the date and time
CURSOR key is used for correction
SET
* Previously registered date and time is displayed.
6. TTI
SET
01 =
02 =
09 =
SET
Input transmitting individual's name Input by the same operation as registration of user ID
SET
* Repetition until one of the following keys is depressed:
STANDBY
STOP
N
7. CONFID. MAILBOX
SET
Input password
PASSWORD NEW
Input the password (4 digits) by numeric key
SET
Change password
PASSWORD
Input the predetermined password (4 digits) by numeric key
SET
N
* Pressing SET key without entering the pasword in the PASSWORD NEW mode brings about release of the confidential mailbox mode.
8. MID PAUSE
SET
Input the pause time (4-11 sec) by numeric key
SET
* If bit (SSSW#4 SPECIAL SW02) is set "1", this function can be registered. (For UK)
REPORT
Output of user data/user soft switch list

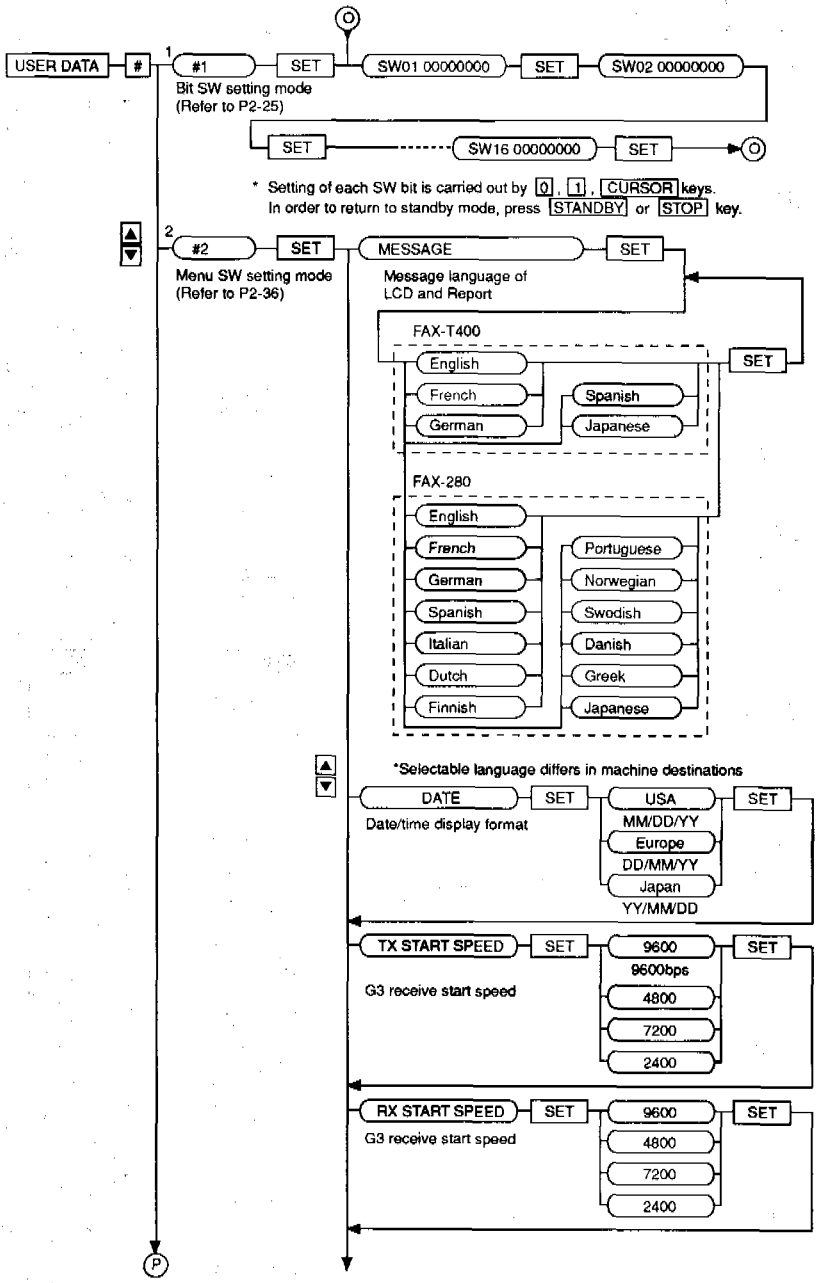
1.5.3 User soft switch registration

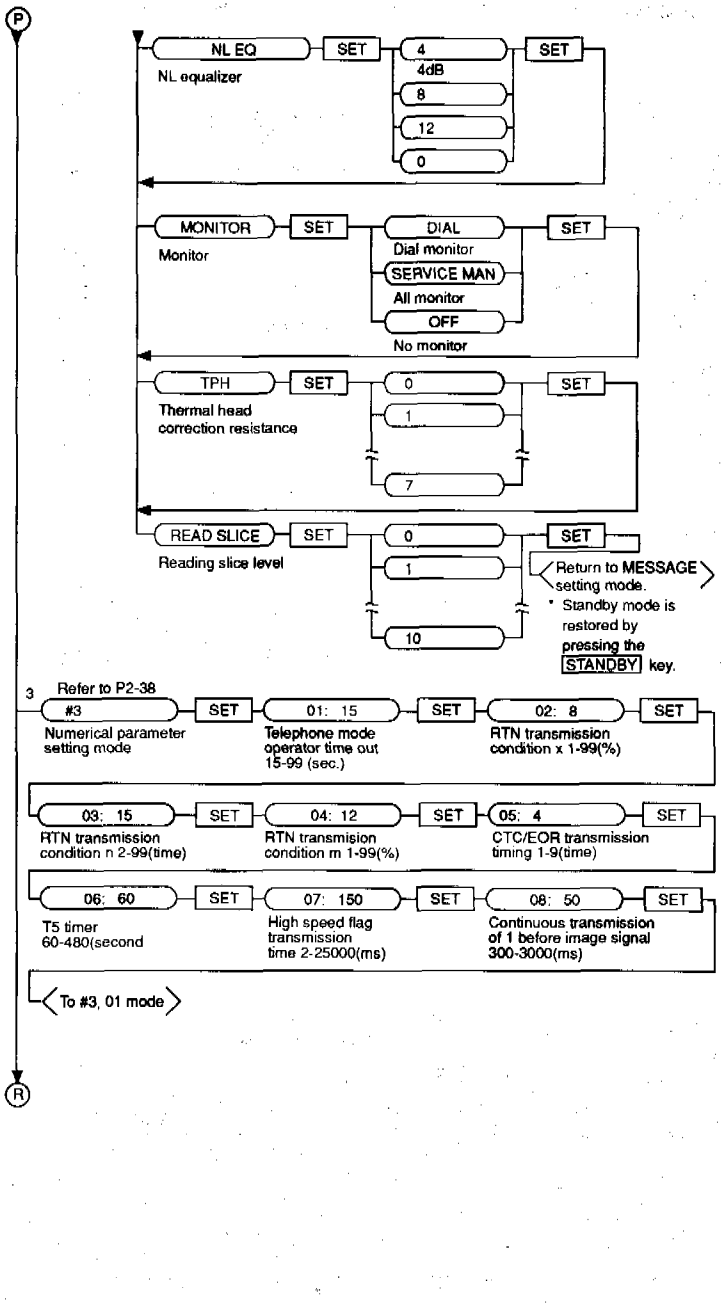
With the document not set, the USER SW registration mode is established by pressing the user Soft Switch key. The following items can be registered in the user soft switch mode:

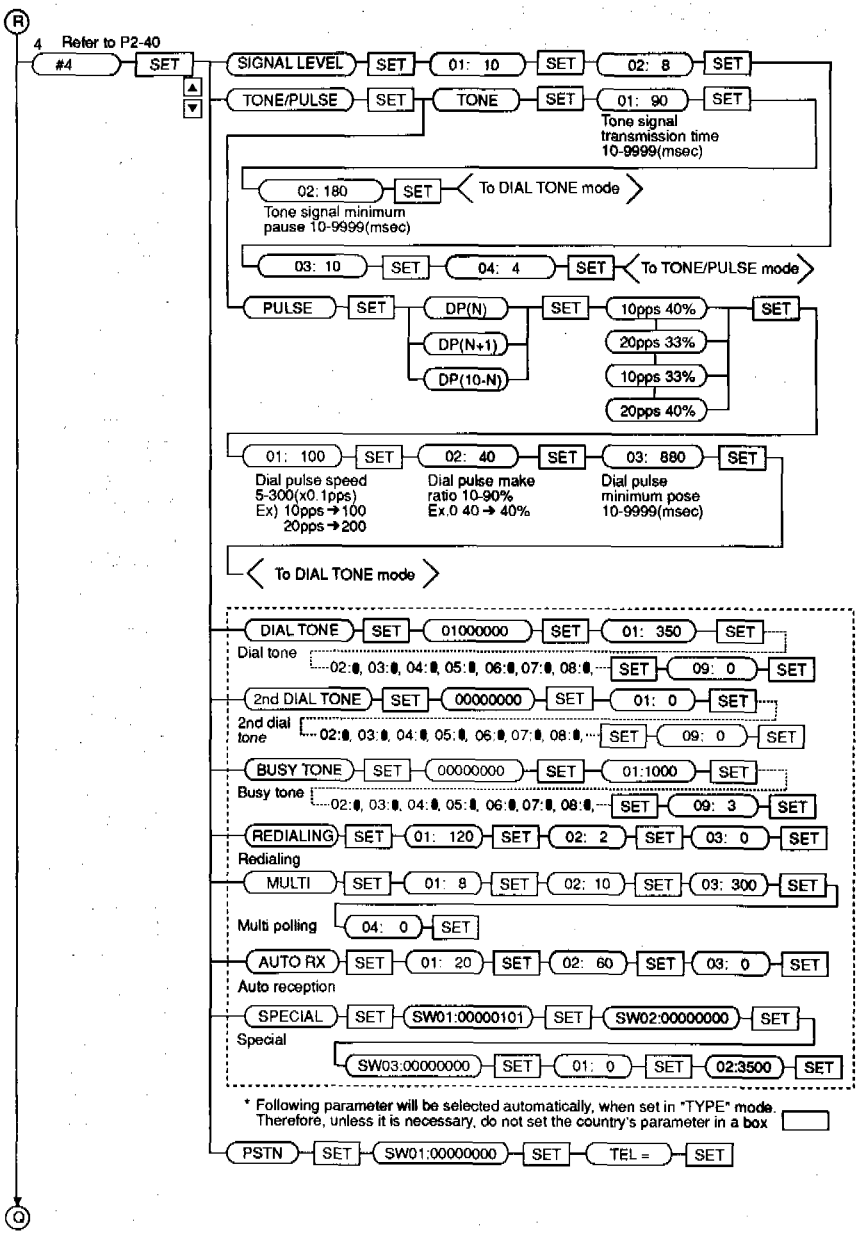
(1)	Transaction report (at each transmission) output	YES/*NO *: Factory setting
(2)	Transaction report (at each reception) output	YES/*NO
(3)	Recording Paper cutting method for message reception	1 communication/*each page
(4)	Phone OFF-Hook Alarm	*ON/OFF
(5)	Transmission Terminal ID	*ON/OFF
(6)	Transmission Terminal ID Position	INSIDE/*OUTSIDE
(7)	Activity Report (40 transactions) (output)	*YES/NO
(8)	Non-delivery notice output	YES/*NO
(9)	Auto exchange (from FAX to Tell)	YES/*NO
(10)	Remote control reception [For FAX-T400]	YES/*NO

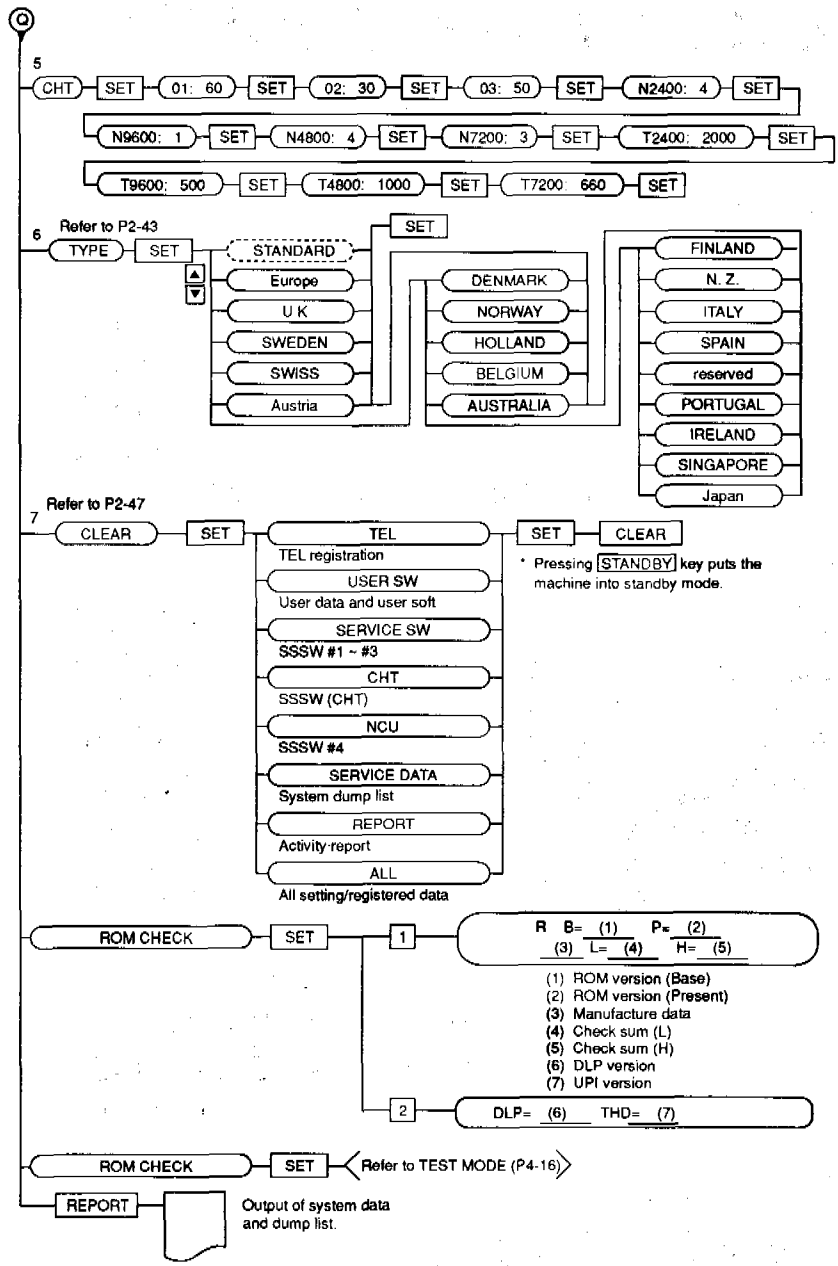


1.5.4 Service Soft Switch Registration




P
NL EQ
SET
4
SET
NL equalizer
4dB
8
12
0
MONITOR
SET
DIAL
SET
Monitor
Dial monitor
SERVICE MAN
All monitor
OFF
No monitor
TPH
SET
0
SET
Thermal head correction resistance
1
7
READ SLICE
SET
0
SET
Reading slice level
1
10
Return to MESSAGE setting mode.
* Standby mode is restored by pressing the STANDBY key.
3
Refer to P2-38
#3
SET
01: 15
SET
02: 8
SET
Numerical parameter setting mode
Telephone mode operator time out 15-99 (sec.)
RTN transmission condition x 1-99(%)
03: 15
SET
04: 12
SET
05: 4
SET
RTN transmission condition n 2-99(time)
RTN transmision condition m 1-99(%)
CTC/EOR transmission timing 1-9(time)
06: 60
SET
07: 150
SET
08: 50
SET
T5 timer 60-480(second
High speed flag transmission time 2-25000(ms)
Continuous transmission of 1 before image signal 300-3000(ms)
To #3, 01 mode
R


R
4 Refer to P2-40
#4
SET
SIGNAL LEVEL
SET
01: 10
SET
02: 8
SET
TONE/PULSE
SET
TONE
SET
01: 90
SET
Tone signal transmission time 10-9999(msec)
02: 180
SET
To DIAL TONE mode
Tone signal minimum pause 10-9999(msec)
03: 10
SET
04: 4
SET
To TONE/PULSE mode
PULSE
SET
DP(N)
DP(N+1)
DP(10-N)
SET
10pps 40%
20pps 33%
10pps 33%
20pps 40%
SET
01: 100
SET
02: 40
SET
03: 880
SET
Dial pulse speed 5-300(x0.1pps) Ex) 10pps → 100 20pps → 200
Dial pulse make ratio 10-90% Ex.0 40 → 40%
Dial pulse minimum pose 10-9999(msec)
To DIAL TONE mode
DIAL TONE
SET
01000000
SET
01: 350
SET
Dial tone
02:0, 03:0, 04:0, 05:0, 06:0, 07:0, 08:0,
SET
09: 0
SET
2nd DIAL TONE
SET
00000000
SET
01: 0
SET
2nd dial tone
02:0, 03:0, 04:0, 05:0, 06:0, 07:0, 08:0,
SET
09: 0
SET
BUSY TONE
SET
00000000
SET
01:1000
SET
Busy tone
02:0, 03:0, 04:0, 05:0, 06:0, 07:0, 08:0,
SET
09: 3
SET
REDIALING
SET
01: 120
SET
02: 2
SET
03: 0
SET
Redialing
MULTI
SET
01: 8
SET
02: 10
SET
03: 300
SET
Multi polling
04: 0
SET
AUTO RX
SET
01: 20
SET
02: 60
SET
03: 0
SET
Auto reception
SPECIAL
SET
SW01:00000101
SET
SW02:00000000
SET
Special
SW03:00000000
SET
01: 0
SET
02:3500
SET
* Following parameter will be selected automatically, when set in "TYPE" mode. Therefore, unless it is necessary, do not set the country's parameter in a box
PSTN
SET
SW01:00000000
SET
TEL =
SET
Q


5
CHT
SET
01: 60
SET
02: 30
SET
03: 50
SET
N2400: 4
SET
N9600: 1
SET
N4800: 4
SET
N7200: 3
SET
T2400: 2000
SET
T9600: 500
SET
T4800: 1000
SET
T7200: 660
SET
6
Refer to P2-43
TYPE
SET
STANDARD
Europe
U K
SWEDEN
SWISS
Austria
SET
DENMARK
NORWAY
HOLLAND
BELGIUM
AUSTRALIA
FINLAND
N. Z.
ITALY
SPAIN
reserved
PORTUGAL
IRELAND
SINGAPORE
Japan
7
Refer to P2-47
CLEAR
SET
TEL
TEL registration
USER SW
User data and user soft
SERVICE SW
SSSW #1 ~ #3
CHT
SSSW (CHT)
NCU
SSSW #4
SERVICE DATA
System dump list
REPORT
Activity report
ALL
All setting/registered data
SET
CLEAR
* Pressing STANDBY key puts the machine into standby mode.
ROM CHECK
SET
1
R B= (1) P= (2)
(3) L= (4) H= (5)
(1) ROM version (Base)
(2) ROM version (Present)
(3) Manufacture data
(4) Check sum (L)
(5) Check sum (H)
(6) DLP version
(7) UPI version
2
DLP= (6) THD= (7)
ROM CHECK
SET
Refer to TEST MODE (P4-16)
REPORT
Output of system data and dump list.

1.6 Service Soft Switch [#1]

• SW04 and SW13 – SW16 are out of use.

#1	
SW01	00000000

Bit No. 7 6 5 4 3 2 1 0

Tab. 2-1-2 SSSW#1–SW01

[#1] – SW01					
Bit No.	**Function**	**1**	**0**	**Factory setting**	
0	Error code for serviceman	Output	Not output	0	
1	Error memory dump	Output	Not output	0	
2	Switch from pulse dialing to tone dialing by [*] key.	Yes	No	0	Note 1
3	Switch from pulse dialing to tone dialing by [#] key.	Yes	No	0	Note 1
4	Out of use			0	
5	Header symbol	FAX	(TEL) ☎	0	
6	Frequency of false dial tone	High	Normal	0	
7	Report print character size	Small	Normal	0	Note 2

Note 1) When the dialing method is set to PULSE DIALING and bit2 (bit3) is set to "1", the dialing method is changed to TONE DIALING by pressing the [*] ([#]) key.

e.g.)

Operation	Dialing	
1234 [*] 5678 START	1234	5678
	Pulse Dialing	Tone Dialing

Note 2) Report print character size

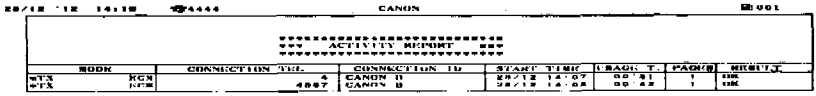
Normal Size

28/12 '12 14:10 ☎4444 CANON 001

****
*** ACTIVITY REPORT ***
****

MODE	CONNECTION TEL	CONNECTION ID	START TIME	USAGE T.	PAGES	RESULT
*TX ECM	4	CANON B	28/12 14:07	00'31	1	OK
*TX ECM	4567	CANON B	28/12 14:08	00'42	1	OK

Small Size



#1
SW02 00000000

Bit No. 76543210

Tab. 2-1-3 SSSW#1-SW02

[#1] – SW02				
Bit No.	**Function**	**1**	**0**	**Factory setting**
0	Memory reception	No	Yes	0
1	Out of use			0
2	1 page timeout	64 min.	32 min.	0
3	CNG output in auto dialing	No	Yes	0
4	Out of use			0
5	NCU type	AM type	AA type	0
6	Out of use			0
7	For factory adjustment			0

#1	
SW03	00000000

Bit No. 7 6 5 4 3 2 1 0

Tab. 2-1-4 SSSW#1–SW03

[#1] – SW03					
Bit No.	**Function**	**1**	**0**	**Factory setting**	
0	TCF decision standards	Loose	Normal	0	Note 1
1	EPT at V29	Attach	Not attach	0	Note 2
2	Sets the value by subtracting 4 from the NL value set to the service soft switch when receiving TCF.	Yes	No	0	
3	Sets the value by adding 4 to the NL value set to the service soft switch when receiving G3 image.	No	Yes	0	
4	Ignore the first DIS	Yes	No	0	
5	Elimination of the first DIS	Yes	No	0	
6	Frequency of DIS-eliminating tone.	1850Hz.	1650Hz.	0	
7	1080Hz prior to CED	Output	Not output	0	

Note 1) TCF decision standard
TCF (1 second within 1.5 second interval, continuous transmission of "0") data is divided into a byte; if data in a byte is not "00(H)" it is regarded as one error. TCF decision standards and their tolerable errors are presented below.

Tab. 2-1-5

Transmission speed(bps)	Data in 1 second (byte)	Tolerable errors (byte)	
		Normal	Loose
2400	300	0	2
9600	1200	0	11
4800	600	0	5
7200	900	0	8

Note 2) EPT=Echo Protect tone.
The V29 (9600 bps/7200 bps) Echo Protect Tone serves to enhance modem convergence by transmitting an unmodulated carrier of 1700 ± 1 Hz about 200ms before training at V29 (9600 bps/7200 bps).
Concerning V27ter, transmission of unmodulated carrier is regulated by CCITT, but V29 is not regulated.
By setting this bit to "1" the unit transmits unmodulated carrier by V29.

#1	
SW05	00000000
	Bit No. 76543210

Tab. 2-1-6 SSSW#1-SW05

[#1] – SW05				
Bit No.	**Function**	**1**	**0**	**Factory setting**
0	Data compression method (MR/MMR prohibited)	Yes	No	0
1	Data compression method (MMR prohibited)	Yes	No	0
2	Data compression method (CBT prohibited)	Yes	No	0
3	Out of use			0
4	Out of use			0
5	Out of use			0
6	Out of use			0
7	Out of use			0

#1	
SW06	00000000

Bit No. 7 6 5 4 3 2 1 0

Tab. 2-1-7 SSSW#1–SW06

[#1] – SW06					
Bit No.	**Function**	**1**	**0**	**Factory setting**	
0	Move document to prescan position	No	Yes	0	Note 1
1	Prescan other than when power is ON	No	Yes	0	Note 2
2	Edge emphasis	No	Yes	0	Note 3
3	ABC width change type	A	B	0	Note 4
4	Out of use			0	
5	Out of use			0	
6	Out of use			0	
7	Out of use			0	

Note 1) 0: Document is fed to the prescanning position (in front of the document glass) and then reading begins.
1: Document is fed to the DES position and then reading begins. There will be some blank area on the header for the difference in position between DES and reading positions. (Set this bit to "1" when the approprite prescan data cannot be obtained because a document is overlapping the document glass due to skew feeding.)

Note 2) 0: Prescanning takes place while reading the document when power is on.
1: Prescanning takes place only when power is on.

Note 3) 0: High-pass emphasis filter is used.
1: High-pass emphasis filter is not used.

Note 4) This switch is effective only in half-tone mode.
0: Reading width by ABC is shorter than the document width.
1: Reading width by ABC contains white reference area. (this is used to clearly distinguish difference in the density.)

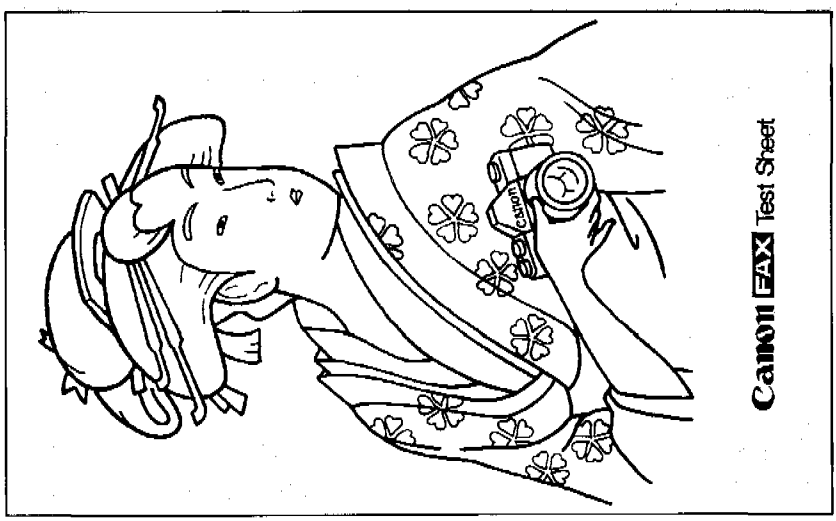
#1	
SW07	00000000

Bit No. 7 6 5 4 3 2 1 0

Tab. 2-1-8 SSSW#1-SW07

[#1] – SW07					
Bit No.	**Function**	**1**	**0**	**Factory setting**	
0	DTMF code during initial discrimination	Trans-mitted	Not trans-mitted	0	
1	DTMF code transmission system (Numeric key)	By digit	All together	0	Note 1
2	Out of use			0	
3	Print of TTI in copy	Yes	No	0	
4	Out of use			0	
5	Print of reception time (footer)	Yes	No	0	Note 3
6	Closed network (reception)	Yes	No	0	
7	Closed network (transmission)	Yes	No	0	

Note 1: This bit is effective only when bit 0 is set "1".
Note 3: Prints the reception time from its own real-time clock at the end of the image page received.



#1	
SW08	00000000

Bit No. 7 6 5 4 3 2 1 0

Tab. 2-1-9 SSSW#1-SW08

[#1] – SW08				
Bit No.	**Function**	**1**	**0**	**Factory setting**
0	Closed network ID			0
1				0
2				0
3				0
4				1
5				1
6				0
7				0

Notes for closed network

- Closed network denotes a limited network communication among a limited number of correspondents using a predetermined 8-character ID number. Therefore, unless the ID's matches each other, communication becomes impossible.
- When bit 6 [closed network (reception)] of SW07 is set to "1", only reception within the network is possible.
- When bit 7 [closed network (transmission)] is set to "1", only transmission within the network is possible.
- The ID number consists of 8 bit comprising 0 and 1 (bit 0 to bit 7 of SW08). However, the 8 bits should not be either all "0" or all "1". The ID number should be set by the service man.
- When bit 6 or bit 7 of SW07 is "1", G2 mode is not available.
- Closed network communication is possible only among Canon facsimiles having the closed network communication bits within NSX.
- When performing polling within a closed network, polling ID error occurrs unless closed network ID and polling ID match.

#1	
SW09	00000000

Bit No. 7 6 5 4 3 2 1 0

Tab. 2-1-10 SSSW#1-SW09

[#1] – SW09				
Bit No.	**Function**	**1**	**0**	**Factory setting**
0	ECM transmission frame size	64 byte	256 byte	0
1	Upon ECM transmission after sending EOR and receiving ERR, next message is sent.	Yes	No	0
2	ECM T2 timer	6 sec	Normal	0
3	Out of use			0
4	ECM/MMR mode	standard	Original	1
5	Out of use			0
6	Out of use			0
7	ECM Sequence	No	Yes	0

#1	
SW10	00000000

Bit No. 7 6 5 4 3 2 1 0

Tab. 2-1-11 SSSW#1-SW10

[#1] – SW10				
Bit No.	**Function**	**1**	**0**	**Factory setting**
0	Out of use			0
1	Out of use			0
2	Out of use			0
3	Out of use			0
4	Out of use			0
5	Out of use			0
6	Out of use			0
7	CHT SW (at receiving only)	OFF	ON	0

#1	
SW11	00000010

Bit No. 7 6 5 4 3 2 1 0

Tab. 2-1-12 SSSW#1–SW11

[#1] – SW11					
Bit No.	**Function**	**1**	**0**	**Factory setting**	
0	Out of use			0	
1	FAX/TEL switching	Voice detecting	CNG detecting	1	
2	For factory adjustment			0	
3	For factory adjustment			0	
4	For factory adjustment			0	
5	For factory adjustment			0	
6	Check the voice before CED			0	Note 1
7	FAX/TEL auto SW	Invalid	Valid	0	Note 2

Note 1: bit6=0; Voice check is done for the 3 seconds before CED.
bit6=1; No voice check is done before CED.

Note 2: bit7=0; SSSW setting for 'FAX/TEL AUTO SW' can be modified.
bit7=7; USSW setting for 'FAX/TEL AUTO SW' cannot be modified.

#1	
SW12	00000000

Bit No. 7 6 5 4 3 2 1 0

Tab. 2-1-13 SSSW#1-SW12

[#1] – SW12				
Bit No.	**Function**	**1**	**0**	**Factory setting**
0	Out of use			0
1	Out of use			0
2	Out of use			0
3	Sequential broadcasting in G2	Yes	No	0
4	Out of use			1
5	Out of use			1
6	Out of use			0
7	Out of use			0

1.7 Menu Switch Setting Mode [#2]

#2 MESSAGE

The above display appears when (#2) is selected and the menu switch setting mode is assumed.
When the [▲] [▼] keys are pressed, each item appears in sequence. The setting mode of the item of display is established by the [SET] key. Tab. 2-1-15 gives a list of each menu switch.

Note 1) NL EQ is effective G3 and G2

Note 2) The parameter for READ SLICE is effective only for the binary signals. The relation between the parameter and image density is as follows.

Tab. 2-1-14 Relation between slice level and density

READ SLICE	0	5	10
Density	Lighter	↔	Darker

Tab. 2-1-15 Details of SSSW #2

(#2)–Menu Switch Setting Mode				
Item	**Details**	**Selection Item**	**Auxiliary Item**	**Factory setting**
MESSAGE	Selection of LCD and report language	**[FAX-T400]** English, French, German, Spanish, Japanese **[FAX-280]** Japanese, English French, German, Spanish, Italian, Dutch, Finish, Portuguese, Norwegian, Swedish, Danish, Greek	Languages selectable vary according to destination	English
DATE	Selection of date display format	Japan USA Europe	'YY MM/DD MM/DD/YY DD/MM'YY	Europe
RX START SPEED	Reception start	9600 4800 7200 2400	9600bps 4800bps 7200bps 2400bps	9600bps
TX START SPEED	Transmission start speed	9600 4800 7200 2400	9600bps 4800bps 7200bps 2400bps	9600bps
NL EQ	NL equalizer	0 4 8 12	0dB 4dB 8dB 12dB	4 dB Note 1)
MONITOR	Dial & Line monitor	DIAL SERVICEMAN OFF	Dial monitor Line monitor No monitor	DIAL
TPH	Thermal head corrective resistance	0~7	Resistance for correcting deviation among TPHs	Mounted THP value
READ SLICE	Reading slice level	0~10		5 Note 2)

1.8 Telephone mode and RTN transmission condition setting mode [#3]

```
#3
01 :                                    15
```

When (#3) is selected, the above is shown in the display and the machine enters telephone mode and RTN transmission condition setting mode. Parameter value for each item is input by numeric-keys and is set when the SET key is pressed.

When the SET key is pressed, the parameter value for the next item is displayed and the unit stands-by for input.
When setting values, be sure to set them within the specified range.
Parameter values are shown in Tab. 2-1-16:

Tab. 2-1-16 Details of SSSW #3

(#3)–Parameter value setting mode				
Parameter No.	Details	Setting range	Factory setting	Actual value
01:	Operator timeout period in the telephone mode	15-99 (sec.)	15	15 sec.
02:	RTN transmission condition x	1~99(%)	10	10%
03:	RTN transmission condition m	2~ 99 times	15	15 times
04:	CTC/EOR transmission	1~99 lines	12	12 lines
05:	High speed flag transmission time	1~9 (times)	4	4 times
06:	T5 timer	60~480 (sec.)	60	60 sec.
07:	High speed flag transmission time	20~500 (×10msec)	150	1500ms
08:	Continuous transmission of 1 prior to image signal	30~200 (×10msec)	50	500ms
09:	Out of use			
10:	Out of use			
11:	Out of use			
12:	Out of use			

1.9 NCU and Automatic dial parameter setting mode [#4]

SIGNAL LEVEL..... Parameter setting for transmission level of all types of signals.

Tab. 2-1-17 SSSW#4-SIGNAL LEVEL

(#4)–SIGNAL LEVEL value parameter setting mode				
Parameter No.	Details	Setting range	Factory setting	Actual value
01:	G3, G2 tonal signal transmission level	0 ~ 15	10	10dB
02:	DTMF high frequency signal transmission level	0 ~ 15	2	2dB
03:	DTMF low frequency signal transmission level	0 ~ 15	4	4dB
04:	Sound detection level	0 ~ 7	4	– 37.5dB

Tab. 2-1-18

Setting	Sound detection level
0	–25.0
1	–28.7
2	–32.0
3	–35.0
4	–37.5
5	–40.0
6	–44.0
7	–48.0

Each level value is nominal.
Frequency range is 400 ~ 3400Hz

TONE/PULSE ..... DIAL format selection and setting of parameters covering DIAL format.

● TONE (TONE DIAL = PB)

Tab. 2-1-19 SSSW#4 – TONE

(#4)–TONE value parameter setting mode				
Parameter No.	**Details**	**Setting range**	**Factory setting**	**Actual value**
01:	Tone signal transmission time	10–9999(ms)	90	90ms
02:	Tone signal minimum pause time	10~9999(ms)	180	180ms

● PULSE (PULSE DIAL = DP)

DP
- DP(N)..... Regular pulse dial: Dial N = N pulse generation
  Dial 0 = 10 pulse generation
- DP(N+1)..... Special pulse dial: Dial N = N+1 pulse generation
- DP(10–N).... Special pulse dial: Dial N = 10–N pulse generation

Dial pulse speed/dial pulse make ratio
- 10pps 33%
- 20pps 33%
- 10pps 40%
- 20pps 40%

01: Pulse dial speed Setting range 5 ~ 300(×0.1 pps)
Example) 10pps = 100, 20pps = 200

02: Pulse dial make ratio Setting range 10 ~ 90(%)
Example) make ratio 33% = 33

03: Pulse dial minimum pause time Setting range 10 ~ 9999 msec
Example) Minimum pause 650msec = 650

* TONE/PULSE is set to PULSE (pulse dial) when shipped from the factory.

DIAL TONE..... Parameter settings pertaining to dial tone.
2nd DIAL TONE..... Parameter settings pertaining to second dial tone.
BUSY TONE..... Parameter settings pertaining to busy tone
REDIALING ..... Parameter settings pertaining to redialing
MULTI..... Parameter settings pertaining to broadcasting data and multi tripolling.
AUTO RX..... Parameter settings pertaining to automatic reception.
SPECIAL..... Parameter settings pertaining to special control format.

Note 1) Parameter will be selected automatically, when country is set in "TYPE" mode.
These values are not to be changed except under special circumstances.

PSTN ..... Extension line/outside line selection. (230V model use)

#1	
SW01	00000000

Bit No. 7 6 5 4 3 2 1 0

Tab. 2-1-20 SSSW#1-SW12

[PSTN]–Extension line/outside line selection				
Bit No.	**Function**	**1**	**0**	**Factory setting**
0	PBX-prefix mode	Yes	No	0
1	PBX-earth connection mode	Yes	No	0
2	PBX-hooking mode	Yes	No	0
3	Reserved			0
4	Reserved			0
5	Reserved			0
6	Reserved			0
7	Check the PBX's D.T. (for Italy)	Yes	No	0

Note 3: Extension line/outside line selection is possible only with the 230V model.
This function cannot be used in some areas, however.
Parameter will be selected automatically, when sets country in "TYPE" mode.

1.10 TYPE Setting

TYPE STANDARD

When (TYPE) is selected, the above display appears and the current setting value is shown. All the network control parameters can be set at once with this mode. By pressing the [▲] [▼] keys, the names of the country are displayed in sequence.
Settings are made by pressing the [SET] key.
When the set key is pressed, appropriate values can be set all at once in the parameters of (DIAL TONE) - (SPECIAL).

STANDARD
Europe
U.K.
Sweden
Swiss
Austria
Denmark
Norway
Holland
Belgium
Australia
Finland
N.Z.
Italy
Spain
Reserved
PORTUGAL
IRELAND
SINGAPORE
German

Tab. 2-1-21

	JAPAN	STANDARD	EUROPE	U.K.	SWEDEN	SWISS	AUSTRIA
#4 SIGNAL LEVEL							
01	8	10	10	10	10	10	10
02	6	4	8	8	8	8	8
03	8	6	10	10	10	10	10
04	4	4	4	4	4	4	4
PULSE	DP(n) 20pps33%	DP(n) 10pps40%	DP(n) 10pps40%	DP(n) 10pps33%	(DP(n+1) 10pps40%	DP(n) 10pps40%	DP(n) 10pps33%
01	33	40	40	33	40	38	40
02	33	40	40	33	40	38	40
03	650	880	880	880	600	880	880
TONE							
01	90	90	90	90	70	70	90
02	180	180	180	180	70	70	180
DIAL TONE	00000000	00000000	01000000	01000000	11000000	11100000	11000000
01	350	180	350	400	6000	2000	1000
02	90	90	130	130	85	80	75
03	10	10	10	10	13	10	20
04	0	0	0	0	0	0	0
05	0	0	0	0	0	0	0
06	300	300	320	320	320	320	384
07	500	500	580	580	580	680	510
08	5	3	3	0	3	5	6
09	0	0	0	0	0	0	0
2ND DIAL TONE	10000000	00000000	00000000	00000000	00000000	00000000	00000000
01	4000	0	0	0	0	0	0
02	4	0	0	0	0	0	0
03	20	0	0	0	0	0	0
04	5	0	0	0	0	0	0
05	20	0	0	0	0	0	0
06	300	0	0	0	0	0	0
07	500	0	0	0	0	0	0
08	5	0	0	0	0	0	0
09	5	0	0	0	0	0	0
BUSY TONE	00000000	00000000	00000000	00000000	00000000	00000000	00000000
01	1000	1000	1000	1000	1000	2000	1000
02	40	40	40	40	40	40	40
03	60	60	60	60	60	65	60
04	40	40	40	40	40	10	40
05	60	60	60	60	60	10	40
06	350	350	350	350	350	320	350
07	450	450	450	450	450	580	450
08	5	3	3	0	2	5	3
09	3	3	3	3	3	2	3
REDIALING							
01	120	120	120	120	120	360	120
02	2	2	2	2	2	1	2
03	2	0	0	0	0	0	0
MULTI							
01	8	8	8	8	8	8	1
02	10	10	10	10	10	10	10
03	300	300	300	300	300	300	60
04	0	0	0	0	0	0	3
AUTO RX							
01	20	20	20	20	20	20	20
02	60	60	60	15	20	20	20
03	0	0	0	400	0	200	200
SPECIAL SW01	00000000	00000001	00000101	00011101	00000101	11100101	01100101
SW02	00000000	00000000	00000000	00000100	00000000	00000011	01110000
SW03	00000000	00000000	00000000	00000000	00000000	00000000	00000000
01	0	0	0	0	0	9	0
02	3500	3500	3500	3500	3500	3500	3500
PSTN SW01	00000000	00000000	00000000	00000000	00000000	00000000	00000000

	DENMARK	NORWAY	HOLLAND	BELGIUM	AUSTRALIA	FINLAND	N.Z.
#4 SIGNAL LEVEL							
01	10	10	10	10	10	10	10
02	8	8	8	5	5	8	3
03	10	10	10	7	7	10	5
04	4	4	4	4	4	4	4
PULSE	DP(n) 20pps33%	DP(n) 10pps40%	DP(n) 10pps40%	DP(n) 10pps33%	(DP(n) 10pps40%	DP(n) 10pps40%	DP(10-n) 10pps33%
01	100	100	100	100	100	100	100
02	33	40	38	33	33	40	33
03	600	880	880	880	880	880	880
TONE							
01	90	70	70	70	90	70	70
02	210	70	70	70	180	70	70
DIAL TONE	11000000	11000000	11100000	11000000	01000000	01000000	01000000
01	1000	2000	4000	1000	350	1000	350
02	130	130	130	80	130	130	130
03	10	10	10	10	0	0	0
04	0	0	0	0	0	0	0
05	0	0	0	0	10	10	10
06	320	80	80	370	320	260	320
07	580	580	650	520	580	580	580
08	3	4	2	2	3	3	3
09	0	0	0	0	0	0	0
2ND DIAL TONE	00000000	00000000	1110000	10000000	00000000	00000000	00000000
01	0	0	4000	1000	0	0	0
02	0	0	130	20	0	0	0
03	0	0	10	50	0	0	0
04	0	0	0	40	0	0	0
05	0	0	0	120	0	0	0
06	0	0	80	1110	0	0	0
07	0	650	1160	0	0	0	0
08	0	0	2	2	0	0	0
09	0	0	0	1	0	0	0
BUSY TONE	00000000	00000000	00000000	00000000	00000000	00000000	00000000
01	1000	1000	1000	1000	1000	1000	1000
02	40	40	20	40	40	40	40
03	60	60	60	60	60	60	60
04	40	40	20	40	40	40	40
05	60	60	60	60	60	60	60
06	350	350	350	350	350	350	350
07	450	450	550	450	450	450	450
08	0	3	2	3	3	3	3
09	3	3	3	3	3	3	3
REDIALING							
01	120	120	120	360	180	360	360
02	2	2	2	2	2	2	2
03	0	0	0	0	0	0	0
MULTI							
01	8	8	8	8	8	8	8
02	10	10	10	10	10	10	10
03	300	300	300	300	300	300	300
04	0	0	0	0	0	0	0
AUTO RX							
01	20	40	20	20	20	20	30
02	60	190	30	60	40	60	15
03	0	0	400	0	400	0	400
SPECIAL							
SW01	00000101	00000101	00000101	00000101	00110101	00000101	00000101
SW02	00000000	00001000	00000000	01110000	00000000	10000000	00000000
SW03	00000000	00000000	00000000	00000000	00000000	00000000	00000000
01	0	0	0	0	0	9	0
02	3500	3500	3500	3500	3500	3500	3500
PSTN							
SW01	00000000	00000000	00000000	00000000	00000000	00000000	00000000

	ITALY	SPAIN	reserved	PORTUGAL	IRELAND	SINGAP	GERMANY
#4 SIGNAL LEVEL							
01	10	10	10	10	10	10	3
02	8	8	8	5	5	4	3
03	10	10	10	10	10	6	5
04	4	4	4	4	4	4	7
PULSE	DP(n) 10pps40%	DP(n) 10pps33%	DP(n) 10pps33%	DP(n) 10pps33%	(DP(n) 10pps40%	DP(n) 10pps40%	DP(n) 10pps40%
01	100	100	100	100	100	100	100
02	40	33	33	33	40	40	40
03	980	400	880	880	880	880	1000
TONE							
01	90	70	90	90	90	90	90
02	180	140	180	180	180	180	180
DIAL TONE	10000000	11000000	01000000	11100000	01000000	01000000	11000000
01	4000	1000	350	1500	350	350	1800
02	15	150	130	10	10	10	10
03	75	10	0	10	10	10	10
04	30	0	0	0	0	0	0
05	120	0	0	0	0	0	0
06	320	320	250	320	320	320	320
07	580	580	500	580	580	580	580
08	5	5	3	3	3	3	4
09	0	0	0	0	0	0	0
2ND DIAL TONE	10000000	00000000	0000000	00000000	00000000	00000000	00000000
01	0	0	0	0	0	0	0
02	0	0	0	0	0	0	0
03	0	0	0	0	0	0	0
04	0	0	0	0	0	0	0
05	0	0	0	0	0	0	0
06	0	0	0	0	0	0	0
07	0	0	0	0	0	0	0
08	0	0	2	2	0	0	0
09	0	0	0	1	0	0	0
BUSY TONE	00000000	00000000	00000000	00000000	00000000	00000000	00000000
01	1000	1000	1000	15000	1000	1000	2000
02	15	40	40	45	40	40	10
03	25	60	60	65	60	60	50
04	15	40	40	15	40	40	20
05	25	60	60	35	60	60	50
06	320	350	350	250	350	350	320
07	450	450	450	500	450	450	580
08	3	3	3	3	3	3	7
09	5	3	3	3	3	3	2
REDIALING							
01	300	120	120	120	120	120	120
02	2	2	2	2	2	2	3
03	0	0	0	0	0	0	0
MULTI							
01	8	8	8	8	8	8	4
02	10	10	10	10	10	10	5
03	300	300	300	300	300	300	300
04	0	0	0	0	0	0	0
AUTO RX							
01	85	20	30	20	20	20	50
02	85	60	15	60	15	60	50
03	0	0	400	0	0	0	0
SPECIAL							
SW01	00000101	00000101	00100101	00000101	00000101	00000101	10100101
SW02	10000000	00000000	00000000	00000000	00000000	00000000	11011001
SW03	00000000	00000000	00000000	00000000	00000000	00000000	00101110
01	0	0	0	0	0	0	0
02	3500	3500	3500	3500	3500	3500	6000
PSTN							
SW01	00000000	00000000	00000000	00000000	00000000	00000000	00100000

1.11 CLEAR MODE

```
CLEAR
TEL
```

When (CLEAR MODE) is selected, the above display appears and the clear mode is assumed. The clear mode contains the following items.

1. [TEL] ..... Details registered with the TEL registration are cleared.
2. [USERS SW] ..... User data and details registered with user soft switches are cleared.
3. [SERVICE SW] ..... Details of SSSW #1 ~ #3, #6 are cleared.
4. [CHT] ..... Details of SSSW CHT are cleared.
5. [NCU] ..... Details of SSSW #4 are cleared.
6. [SERVICE DATA] ... Details of system dump list are cleared.
7. [REPORT] ..... Details of communication control report are cleared.
8. [ALL] ..... All setting/register data are cleared.

When [▲] [▼] keys are pressed, each item is displayed in sequence.
By pressing the [SET] and [CLEAR] keys, the details of the item on display are cleared.

Note) Selection items and numerical values of parameters will be set to the factory setting values by the clear operation.

2 EXPLANATION OF OPERATION

2.1 Copy

2.1.1 Copying

1. The super-fine mode is always used during copying. (Regardless of whether DARKER or HALF-TONE is selected.)
2. When a copy is made, recording is performed while reading the document.
3. Transmission or reception cannot be performed while copying.

2.1.2 Multicopying

1. Up to 99 copies can be made in multicopying.
2. Selection of standard, fine or super-fine is possible for multicopying.
3. When multicopying is specified, the document is saved in the memory for the first copy, and then the image stored in the memory is copied for the second, and following copies.

2.2 Dialing

2.2.1 One-touch speed dial

Telephone numbers of up to 24 locations can be registered from [01] to [24].

The following items can be registered for each one touch key:

1. Partner's name
2. Confidential mailbox transmission/Relay broadcasting control transmission
3. Communication mode (Ex. transmission start speed, long distance call set)

- The following are the communication modes.
  9600 bps.....Regular transmission, starting from 9600 bps.
  4800 bps.....Start in 4800 bps.
  .....Used when the line condition is bad.
  .....Good for transmission and polling reception.

Long distance 1	Ignore the first DIS	9600 bps start
Long distance 2	Elimination of the first DIS (1650Hz)	
Long distance 3	Elimination of the first DIS (1850Hz)	
Long distance 4	Ignore the first DIS	4800 bps start
Long distance 5	Elimination of the first DIS (1650Hz)	
Long distance 6	Elimination of the first DIS (1850Hz)	

- When the registered one-touch key is pressed, the one-touch key No., the destination telephone No., and other party's ID name (if registered) are displayed on the LCD.

Note) Details registered in a one-touch key (confidential, relay, timer transmission) are good only during transmission

2.2.2 Coded speed dialing

Telephone numbers of up to 100 locations can be registered in this format from (*00) to (*99), telephone numbers of up to 38 digits (display of 16 digits) can be input to each coded dial.

2.2.3 Group dialing

1. Many destination telephone Nos. from those registered as one-touch speed dials and coded speed dials can be registered as a group dial.
2. Capable of registering up to 24 group dials.
3. One group can have; up to 124 destinations
   (24 one-touch speed dials and 100 coded speed dials)
4. Keys which are already registered for one-touch speed dialing or for expanded dialing cannot be registered as a group. One-touch keys set for transmission time designation also cannot be registered as a group.
5. To register one-touch speed dial within a group, press the [#] key and input a two-digit one-touch number with numeric key.
6. To register coded speed dial within a group, press the [✳] key and input a two- digit, coded number with the numeric key.

2.2.4 Numeric key dial

Telephone numbers can be dialed by using the numeric keys on the operating panel. Up to 38 digits including a space or pause can be input for each telephone number. Inputs from the 39 digit are ignored. The input telephone number is entered by pressing the start key.

2.2.5 Manual Redial

If any dial operation is made using this machine, the last destination telephone number called is stored in memory.
Dialing can be done by pressing the [#] key.
Contents are cleared by turing off the main power source.

2.3 Transmission

With the document set for transmission, nine transmitting individual's names can be selected with the [TTI SELECTOR] key. If nothing has been selected, the user's ID is selected automatically.

2.3.1 Transmission by auto dial (main telephone is on hook)

1. Set a document and dial by one-touch speed, coded speed, or numeric key dialing.
2. The unit shifts to the transmission mode when the start key is pressed or any keys have not been input for 3 to 5 seconds.

2.3.2 Manual transmission (main telephone is off hook)

1. Set a document and press the start key after dialing from the main telephone.
   Then the document is transmitted.
2. The transmission mode can be changed depending upon the time that the [START] key is pressed.

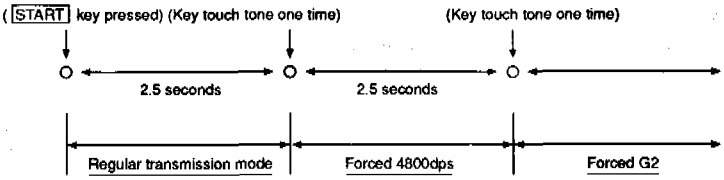


Fig. 2-2-1

2.3.3 Memory transmission

1. Set a document and dial.
2. The unit shifts to the memory transmission mode when the set key is pressed.

2.3.4 Seaquential broadcasting

1. When during memory transmission a plural number of destinations has been selected, broadcast transmission is implemented. At this time, the maximum number of destinations is as follows.
   One-touch 24 + coded speed 100 + numeric key 1 = 125 (maximum)
2. When document storage is complete, transmission occurs in sequence to the registered destinations.

2.3.5 Delayed transmission/Delayed sequential broadcasting

1. The delayed transmission reservation mode is established by pressing the delayed transmission key after document is set.
2. Register the desired time of transmission and destiantion.
   If a plural number of destinations are registered at this time, delayed broadcasting transmission is implemented. Maximum of 125 distinations.
3. Set documents are stored in memory.
4. When the designated time arrives, dialing occurs automatically and the document is transmitted.
5. When delayed transmission is executed and completed, the corresponding delayed transmission record is erased.

2.4 Reception

2.4.1 Manual Reception

The reception mode can be changed to G3/4800bps reception or G2 reception depending on how long the [START] key is kept pressed.

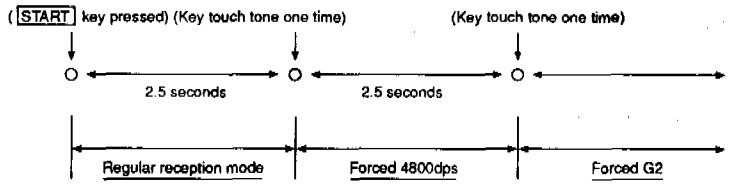


Fig. 2-2-2

2.4.2 (Multi) Polling Reception

1. One-touch, coded speed, numeric-key etc. dialling operations take place without document being set.
2. Pressing [START] key shifts operation to polling reception mode.
3. If a number of destinations are entered during dialling operation, multi-polling function comes into operation.
4. Max. numbers of destinations possible to register are as follows:
   One-touch, 24; coded, 100; numeric 1; Total, 125.

2.4.3 Delayed (Multi) Polling Reception

1. Without setting document, pressing delayed polling key starts DELAYED POLLING mode.
2. Entering polling time and destination shifts to DELAYED POLLING reception mode.
3. If multiple numbers of destinations are inputted, DELAYED MULTI POLLING mode comes into operation.
   In this operation, max. number of destinations is 125.
4. At designated time, polling reception begins.
5. Even after the delayed (multi) polling is executed, the corresponding delayed (multi) polling record is not erased.

2.5 Confidential Mailbox Communication

Concerning confidential communication
Documents transmitted confidentially are stored in the image memory (confidential mailbox) of the receiver. To output a document which has been received confidentially, a user of the receiver must input the confidential mailbox no., and the password (secret number) which were registered beforehand. Hence the confidential communication is used when you want to send documents to specific persons only.

2.5.1 Confidential mailbox transmission

1. This machine can send documents confidentially to other Canon machines (i.e., 730) which have the confidential reception function.
2. When a receiver does not have the confidential reception function (e.g. FAX-410, FAX-230), error occurs in response to the confidential transmission attempt.
3. In the case of confidential mailbox transmission in which a confidential mailbox key is used, the mailbox number is automatically set to "00".
4. As for confidential transmission registered in one-touch key, the mailbox number can be designated. If the confidential mailbox number designated at the time of transmission was not established in the receiver in advance, the transmission ends with an error.
5. Relay broadcasting control transmission and confidential transmission can not be performed at the same time.

2.5.2 Confidential mailbox reception

1. The confidential mailbox reception is available on this machine. (Once the password is entered, the confidential mailbox reception becomes operational automatically.)
2. If the confidential mailbox number has been preset to "00" and caller sends a fax using the number other than "00", this will be regarded as an erroneous transmission.
3. The confidential mailbox is able to receive 14 sheets of documents (in A4 standard size) at maximum, which means it can store max. 14 sheets of document data because both the confidential mailbox reception and the memory reception have to share the same memory.
4. In the confidential mailbox reception, ECM mode is inoperational.

5. If the memory capacity runs short, this will cause the same sequences as in the memory reception.
6. After the confidential mailbox reception, the confidential mailbox reception report is output, and then the machine enters into the standby mode. However, if paper is not provided, there will be no printout.
7. LCD takes the memory reception indication first.
8. When you forget the password for the confidential mailbox, input the master ID no. "4559769". When the master ID no. is inputted, confidential reception image is printed, and the pre-set ID no. is cancelled.

(1) Procedures for setting of the password

1. Select "7. Confidential Mailbox" with [USER DATA] and , [▲] [▼] keys, and press [SET] key.
2. Make sure that "PASSWORD NEW" appears on the LCD. Then enter a password (4 digits 0000 - 9999), and then press [SET] key.

(2) Procedures for correcting of the password

1. Follow the above procedures 1.
2. "PASSWORD" is indicated on the LCD, enter the current password and press [SET] key.
3. When the password matches, "PASSWORD NEW" is shown. Then enter the new password and press [SET] key.

(3) Procedures for cancelling the password (cancelling of confidential mailbox reception)

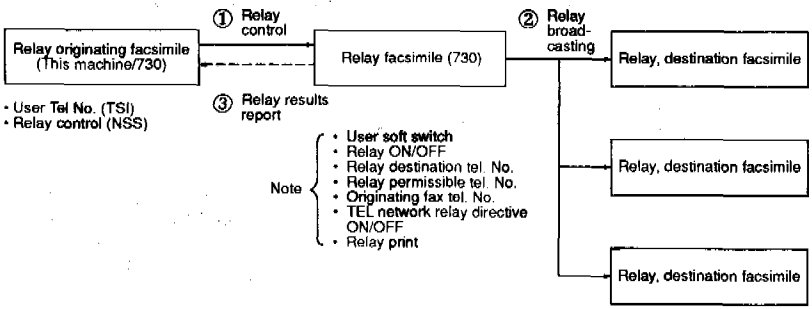
Following the same procedures as in 3, press [SET] key without entering the new password, so that the confidential mailbox reception can be cancelled.

2.6 Relay Broadcasting Control Transmission

Concerning relay broadcasting

When you want to send the same document to a number of different addresses, you do not have to send the document to each address. By sending the document to a facsimile with a relay function first, this relay station then sends the document to each of the addresses.

This unit can function as a relay control station and others like the 730 can function as a relay control or relay broadcasting station. Terminology pertaining to relay broadcasting is presented below:



Note) Consult the 720/730 service manual. (Chapter 2)

Fig. 2-2-3

1. This machine can conduct relay broadcasting control transmission to Canon machines (e.g., 730) which have the relay broadcasting function.
2. The last four or six digits of the telephone number of this machine must match those of the relay originating fax tel #1 of the relay facsimile or those of the originating fax tel #2.

* Relay broadcasting control transmission and confidential mailbox transmission cannot be performed at the same time.

2.7 Memory Reception

If recording paper runs out during automatic reception, this function serves to automatically store in memory the images received from the next page.

2.7.1 Memory reception operation

1. If the recording paper end mark is detected during reception, memory reception begins from the next page.
2. When memory reception takes place, the LCD reads "RECEIVED IN MEMORY".
3. Memory reception is possible in the G3 and G2 mode.
4. A maximum of approximately 14 document sheets (CCITT No. 1 chart, standard mode) can be stored in memory.

   a. The number of page stored in the memory differs with the reading mode (Standard/Fine/Super Fine) and the blackness percentage of the document.
   b. The memory used for the memory reception is the common memory allocated for the confidential mailbox reception.

2.7.2 Printout of memory received data

1. Set recording paper.
2. Press [START] key (manual cut).
3. Have the received image printed out.

2.7.3 Other precautionary points

1. If there is an excess of memory during memory reception, a communication error occurs. The images received for the pages prior to the error are recorded.
2. If during printout of memory received images, the recording paper supply is exhausted or other abnormalities arise, the images still remain in memory.

2.8 Extension Line/PSTN (FAX-280 only)

This function is used to call the PSTN from an extension line. Regulations regarding PBXs and PTTs in some areas do not allow this operation.

2.8.1 PBX-prefix mode

This mode is use when the PBX is using a prefix number to switch the extension line into PSTN.
Prefix No. input into SSSW #4 PSTN.

2.8.2 PBX-hooking (Loop Disconnection) mode

This mode is use when the PBX is using a loop disconnection to switch the extension line into PSTN.

2.8.3 PBX-earth connection mode

This mode is use when the PBX is using an earth connection to switch the extension line into PSTN.

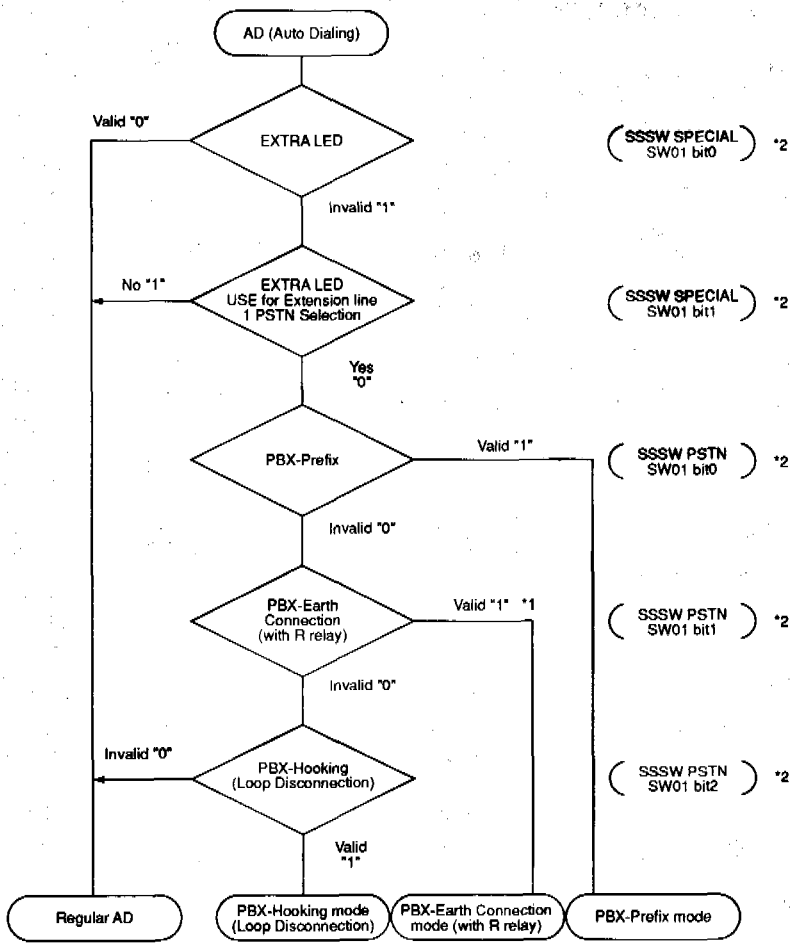


Fig. 2-2-4 Extension facility selection flow chart

*1 When set to "1", always set the SW13 or SW14 of the NCU card. The selection of SW13 and SW14 is determined according to the regulations regarding PBXs and PTTs.

*2 Factory setting is set "0".

3 VARIOUS LISTS/REPORTS

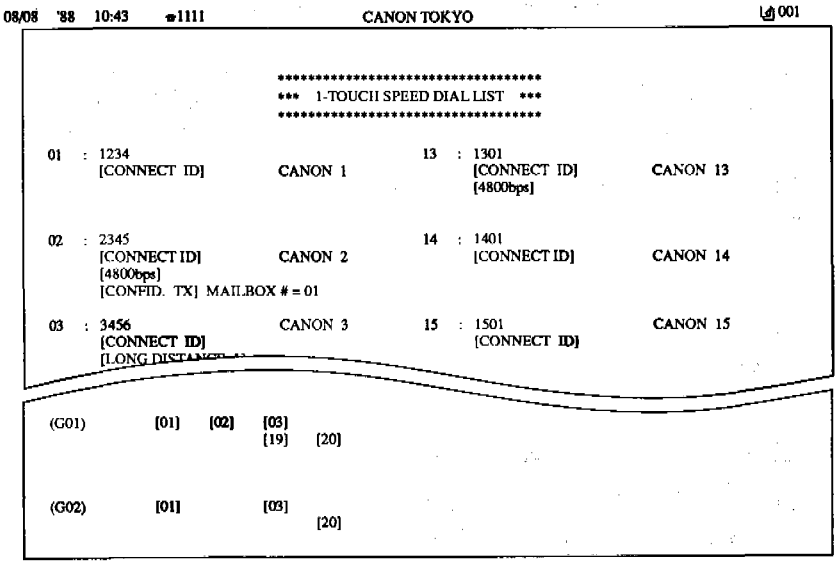
Lists and reports which can be output from this unit are presented below. Output samples are presented in the following pages.

Tab. 2-3-1

	List/report	Contents	Output operation
1	Telephone No. list	Data registered by TEL REGISTRATION	TEL REGISTRATION REPORT
2	User data list	Data registered by (USER DATA) and (USER SW)	USER DATA or REPORT USER SW
3	System data list	Data registered in service soft switches and list of ROM versions, etc.	USER DATA # REPORT
4	System dump list	Following information can be obtained. Accumulated transaction page Nos. Transmission speed histogram Usage frequency of each communication mode. Error communication information	USER DATA # REPORT
5	Activity report	Communication record list which tells who the partner was and what the type of communication was for the last 40 communication.	REPORT Output either every 40 communications or at designated time.
6	Transmission results report	Report of transmission results for each communication	Selected by USER SW
7	Reception results report	Report of reception results for each communication	Selected by USER SW

	List/report	Contents	Output operation
8	Relay results report	Report of results of relay transmission sent from relay station to relay control station.	Output is transmitted as image data from the relay station to the relay directive station after relay transmission itself is completed.
9	Memory reception results report	Informs that memory reception has taken place	Automatic
10	Communication reservation report (delayed polling)	Communication reservation report of delayed polling	Automatic output by recording of delayed polling.
11	Communication reservation report (delayed transmission)	Communication reservation report of delayed transmission	Automatic output by recording of delayed transmission.
12	Multi transaction report	Report of transmission results of sequential broadcasting	Automatic
13	Confidential mailbox report	Informs that confidential mailbox reception has taken place	Automatic
14	Non-delivery notice	When, for some reason, memory transmission could not be performed, the image which could not be transmitted is printed out.	Selected by USER SW

1. 1-touch speed dial list/Coded speed dial list



08/08 '88 10:43 ☎1111 CANON TOKYO 001

****
*** 1-TOUCH SPEED DIAL LIST ***
****

01 : 1234
[CONNECT ID] CANON 1

02 : 2345
[CONNECT ID] CANON 2
[4800bps]
[CONFID. TX] MAILBOX # = 01

03 : 3456
[CONNECT ID] CANON 3
[LONG DISTANCE 1]

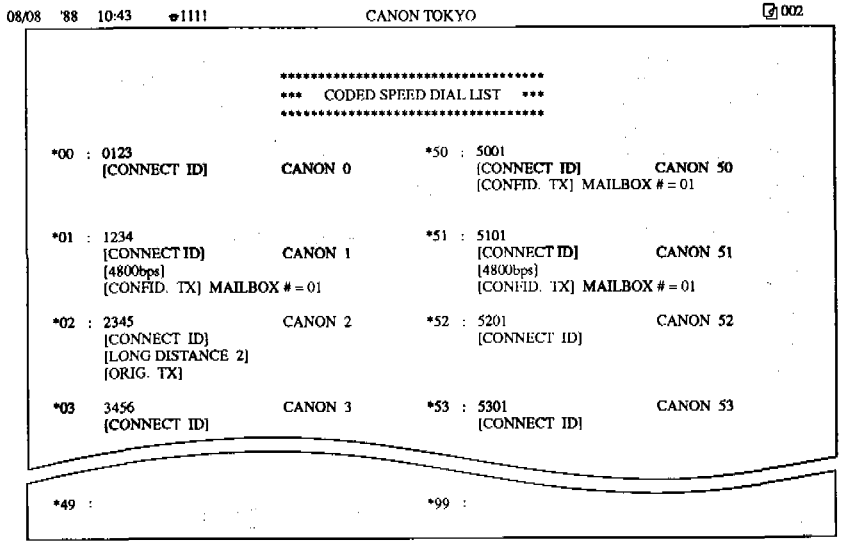
13 : 1301
[CONNECT ID] CANON 13
[4800bps]

14 : 1401
[CONNECT ID] CANON 14

15 : 1501
[CONNECT ID] CANON 15

(G01) [01] [02] [03]
[19] [20]

(G02) [01] [03]
[20]



08/08 '88 10:43 ☎1111 CANON TOKYO 002

****
*** CODED SPEED DIAL LIST ***
****

*00 : 0123
[CONNECT ID] CANON 0

*01 : 1234
[CONNECT ID] CANON 1
[4800bps]
[CONFID. TX] MAILBOX # = 01

*02 : 2345
[CONNECT ID] CANON 2
[LONG DISTANCE 2]
[ORIG. TX]

*03 3456
[CONNECT ID] CANON 3

*50 : 5001
[CONNECT ID] CANON 50
[CONFID. TX] MAILBOX # = 01

*51 : 5101
[CONNECT ID] CANON 51
[4800bps]
[CONFID. TX] MAILBOX # = 01

*52 : 5201
[CONNECT ID] CANON 52

*53 : 5301
[CONNECT ID] CANON 53

*49 :

*99 :

2. User data list

08/08 '88 10:57 ☎1111 CANON TOKYO 001

****
*** USER'S DATA LIST ***
****

USER'S ID	-----	CANON TOKYO
TTI	01 : -----	CANON A
	02 : -----	CANON B
	03 : -----	CANON C
	04 : -----	CANON D
	05 : -----	CANON E
	06 : -----	CANON F
	07 : -----	CANON G
	08 : -----	CANON H
	09 : -----	CANON I
USER'S TEL	-----	1111
POLLING ID	-----	10101010
REPORT TIME	-----	14:35
TX REPORT	-----	OUTPUT NO
RX REPORT	-----	OUTPUT NO
AUTO CUT MODE	-----	PER PAGE
OFFHOOK ALARM	-----	ON
TX TERMINAL ID	-----	ON
TTI POSITION	-----	OUTSIDE IMAGE
ACTIVITY REPORT	-----	OUTPUT YES
NON DLVRY NOTICE	-----	OUTPUT NO
FAX/TEL AUTO SW	-----	OFF

3. System data list

08/08 '88 10:43 ☎1111 CANON TOKYO 001

```
**********************************
***      SYSTEM DATA LIST      ***
**********************************


#1

    SW01                -----   00000000
    SW02                -----   00000000
    SW03                -----   00000000
    SW04                -----   00000000
    SW05                -----   00000000
    SW06                -----   00000000
    SW07                -----   00000000
    SW08                -----   00000000
    SW09                -----   00000000
    SW10                -----   00000000
    SW11                -----   00000010
    SW12                -----   00000000
    SW13                -----   00000000
    SW14                -----   00000000
    SW15                -----   00000000
    SW16                -----   00000000

#2

    MESSAGE             -----   English
    DATE                -----   Europe
    RX START SPEED      -----   9600
    TX START SPEED      -----   9600
    NL EQ               -----   4
    MONITOR             -----   DIAL
    TPH                 -----   3
    READ SLICE          -----   5

#3

                                15
                                 8
    02 :
    03 :                -----
    N2400 :             -----
    N9600 :             -----    1
    N4800 :             -----    4
    N7200 :             -----    3
    T2400 :             -----  2000
    T9600 :             -----   500
    T4800 :             -----  1000
    T7200 :             -----   660

TYPE

    TYPE
                        -----   Europe

ROM VERSION

    MAIN
                        -----   E06.01
    DLP                         E06.01
    THD                 -----   91
                        -----   01

START DATE

    '88/08/08
```

4. System dump list

08/08 '88 10:57 ☎1111 CANON TOKYO 001

****

*** SYSTEM DUMP LIST ***

****

CLEAR DATE

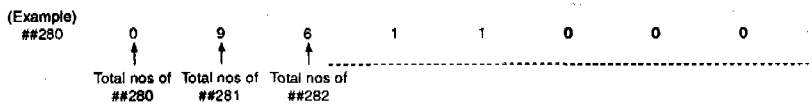
'12/12/18

*1	RX =	0	TX =	0	RETX =	0		
*2	DOC =	0	MEM =	0				
*3	A4 =	0	B4 =	0	A3 =	0	A5 =	0
*4	2400 =	0	9600 =	0	4800 =	0	7200 =	0
*5	STD =	0	FINE =	0	SUPER =	0		
*6	MH =	0	MR =	0	MMR =	0		
*7	CHT =	0	ECM =	0				
	G3 =	0	ECM =	0	CHT =	0	MF2 =	0
	G2 =	0	MF1 =	0				
	? =	0						

*8	#000	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
		0							
	##000	0	0	0	0	0	0	0	0
		0	0	0	0	0			
	##100	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
	##200	0	0	0	0	0	0		
	##280	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	
	##600	0	0	0	0	0	0	0	0
		0	0	0	0	0		0	
	##710	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
		0	0						

Print each datum up to the present time by setting per sample shown on the previous page.

*1	Total reception page Nos., total transmission page Nos. and total retransmission page Nos.	Accumulated transmission/ reception Nos. of pages.
*2	Breakdown of total transmission page Nos. (Total document transmission page Nos. and total memory transmission page Nos.)	
*3	Breakdown of total documents. (Page Nos. by document size)	
*4	Transmission and reception page Nos. by each modem speed. (G3)	Transmission speed histogram.
*5	Transmission and reception page Nos. of each mode. (G3: standard/fine)	Communication mode.
*6	Transmission and reception page Nos. of each coded method. (G3)	
*7	Transmission and reception Nos. of each mode.	Error communication information
*8	Total occurrence of each error.	



Error data of the latest 3 communications

#1 OLDEST ##750

START TIME 08/08 11:28

OTHER PARTY 2

MAKER CODE 10001000

Rx : (bit 9) 01110011 00011101 (bit24)
Tx : (bit 9) 01100001 00011111 (bit24)

Rx :			NSF	CSI	DIS			CFR				
Tx :	CNG	CNG	NSS	TSI	DCS	TRN	PIX	PPX_NULL	PPS_NULL	PPS_NULL	DCN	

#2 ##280

START TIME 08/08 11:37

OTHER PARTY 1234

MAKER CODE 10001000

Rx : (bit 9) 01110010 00011101 (bit24)
Tx : (bit 9) 01100000 00010001 (bit24)

Rx :			NSF	CSI	DIS											
Tx :	CNG	CNG	NSS	TSI	DCS	TRN	NSS	TSI	DCS	TRN	NSS	TSI	DCS	TRN	DCN	

#3 LATEST ##765

START TIME 08/08 12:37

OTHER PARTY 2

MAKER CODE 10001000

Rx : (bit 9) 01110011 00011101 (bit24)
Tx : (bit 9) 01100001 00011111 (bit24)

Rx :			NSF	CSI	DIS			CFR				
Tx :	CNG	CNG	NSS	TSI	DCS	TRN	PIX	PPS_EOP	PPS_EOP	PPS_EOP	DCN	

5. Activity report (The latest 40 communications)

08/08 '88 12:40 ☎1111 CANON TOKYO 001

****
*** ACTIVITY REPORT ***
****

MODE	CONNECTION TEL	CONNECTION ID	START TIME	USAGE T.	PAGES	RESULT
*TX G3	1234	CANON 1	08/08 11:02	00:52	1	OK
CONFID. TX G3	2345	CANON 2	08/08 11:18	00:07	0	NG
					0	#033
			08/08 11:19	02:57	2	OK

6. Activity report (TX)

08/08 '88 12:38 ☎1111 CANON TOKYO 001

ACTIVITY REPORT

TRY TRANSMISSION AGAIN

ERROR PAGE	1
TRANSACTION #	0011
CONNECTION TEL	2
CONNECTION ID	CANON L
START TIME	08/08 2:37
USAGE TIME	00'43
PAGES	1

08/08 '88 12:38 ☎1111 CANON TOKYO 001

ACTIVITY REPORT

TRANSMISSION OK

TRANSACTION #	0010
CONNECTION TEL	2
CONNECTION ID	CANON L
START TIME	08/08 12:32
USAGE TIME	00'32
PAGES	1

7. Activity report (RX)

08/08 '88 13:37 ☎1234 CANON TOKYO 001

ACTIVITY REPORT

RECEPTION OK

TRANSACTION #	0024
CONNECTION TEL	2222
CONNECTION ID	Canon ECM
START TIME	08/08 13:36
USAGE TIME	00'30
PAGES	1

08/08 '88 12:48 ☎1111 CANON TOKYO 001

ACTIVITY REPORT

INCOMPLETE RECEPTION

ERROR PAGE	0
TRANSACTION #	0015
CONNECTION TEL	2222
CONNECTION ID	CANON L
START TIME	08/08 12:47
USAGE TIME	00:22
PAGES	0

8. Relay results report

08/08 '88 14:19 ☎5555 CANON A 001/001

RELAY BROADCAST REPORT

RELAY B'CAST	#01
ORIGINATING UNIT	[01]36
RELAY PRINT	OK

9. Memory reception results report

MODE	CONNECTION TEL	CONNECTION ID	START TIME	USAGE T.	PAGES	RESULT
MEMORY RX	2222	Canon G3	08/08 13:49	00:31	1	OK

10. Transaction schedule (Delayed polling)

08/08 '88 13:51 ☎1234 CANON TOKYO 001

ACTIVITY REPORT

MODE	DELAYED POLLING
TRANSACTION #	0030
START TIME	16:59
CONNECTION TEL	

[01] 1234 [02] 2345

[03] 3456 2564

13. Confidential mailbox report

08/08 '88 13:38 ☎1234 CANON TOKYO 001

ACTIVITY REPORT

RECEIVED IN MAILBOX

TRANSACTION #	0025
CONNECTION TEL	2222
CONNECTION ID	Canon G3
START TIME	08/08 13:37
USAGE TIME	00'39
PAGES	1

14. Non-delivery notice

08/08 '88 13:54 ☎1234 CANON TOKYO 001

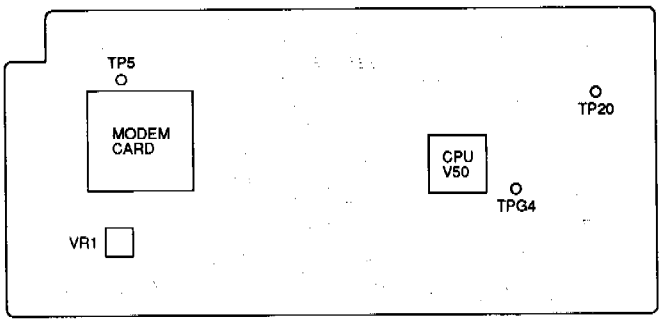
ACTIVITY REPORT

TRY TRANSMISSION AGAIN 0 #034
ERROR PAGE

TRANSACTION #	0032
CONNECTION TEL	2345
CONNECTION ID	CANON 2
START TIME	08/08 13:54
USAGE TIME	00'15
PAGES	0/ 1

4 HARD SWITCHES AND VOLUME

4.1 SCNT Card

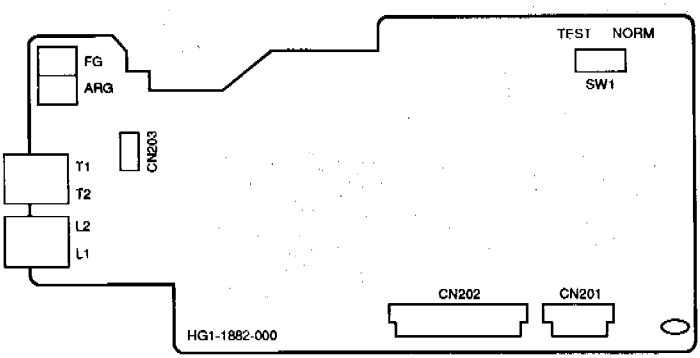


VR1 : Factory adjustment
TP20 : Image signal
TPG4 : GND

Fig. 2-4-1

4.2 NCU Card

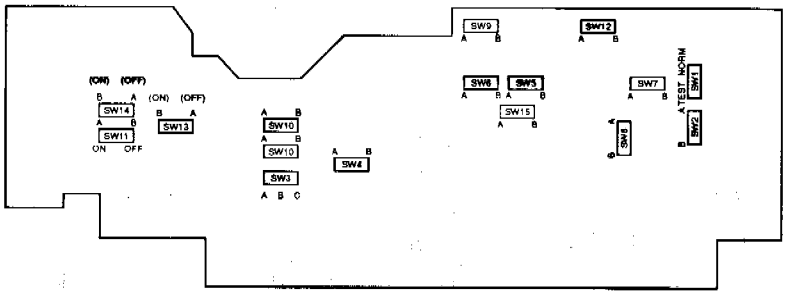
(1) FAX-T400



SW1: Off Hook switch (Set to NORM side)

Fig. 2-4-2

(2) FAX-280



Refer to page 3-11 for each country's setting and details of each switch.

Fig. 2-4-3

Note) Direct-connection test
A direct-connection test (communication test conducted between facsimile machines connected with wire) is possible in the following manners with SW1 set to NORM side.
e.x. Communication test between the present machines

Operation

(1) Connect the LINE terminal with the modular cord.

(2) Transmission side:
1. Set the document.
2. Open the one-touch key cover and press [09] key.
3. Press [START] key ⇨ Transmission becomes ready.

Reception side:
1. Open the one-touch key cover and press [09] key.
2. Press [START] key ⇨ Reception becomes ready.

5 ERROR CODE OUTPUT FORMAT

The LCD display when there is an error and print format change according to the setting of the user softswitch (user SW) and service soft switch (SSSW). Here are some samples.

Tab. 2-5-1

Under SW Transaction (TX/RX) report	SSSW[#1]SW01		LCD display		Print			
	bit0	bit1	(A)	(B)	(C)	(D)	(E)	(F)
Not Output	0	0	O	—	—	—	—	—
Not Output	1	0	O	O	—	—	—	—
Output	0	0	O	—	O	O	—	—
Output	1	0	O	O	O	—	O	—
X	0	1	O	—	O	—	—	O
X	1	1	O	O	O	—	O	O

Note: X indicates that there is not relation between "Output" and "Not Output".

(A) (B)

- LCD display TRANSMIT AGAIN ##281 Approximately 1 second

⇩

- Print (Date and time display)

ACTIVITY REPORT

TRY TRANSMISSION AGAIN

ERROR PAGE	1	#XXX (D) or ##XXX (E)
TRANSACTION #	0010	
CONNECTION TEL	4444	
CONNECTION ID	CANON B	
START TIME	08/08 14:21	
USAGE TIME	00'53	
PAGES	1	

START TIME	12/28 14:21	
OTHER PARTY	4444	
MAKER CODE	10001000	

Rx : (bit 9) 01110011 00011101 (bit24)
Tx : (bit 9) 01100001 00011111 (bit24)

Rx:	NSF CSI DIS	CFR	
Tx:	CNG	NSS TSI DCS TRN	PIX PPS_EOP PPS_EOP PPS_EOP DCN

1 INSTALLATION PROCEDURE TABLE

The table below shows the main installation procedures. For further details, refer to the pages shown in the "Reference".

Tab. 3-1-1 Installation Procedure Table

Step	Procedure	Explanation	Reference
1	Unpacking	Unpack, and verify that all the parts are present.	P3-2
2	Operational check	• Set recording paper. • Make a copy, and check the image and operation.	P3-4
3	Installation of handset holder	Mount the handset holder on the FAX main unit with screws.	P3-5
4	Connection of handset (telephone)	Connect the (telephone) handset that comes with the kit, to the FAX main unit.	P3-5
5	Setting the handset	Adjust the output volume of the handset for ring tone.	P3-7
6	Clearing operation	When installing, be sure to perform an all-clear operation before registering the various data.	P3-8
7	Verify and set the line to be used	Check whether the line to be used is PB or DP, and set the unit accordingly. Selection and setting are made with the user soft switch.	P3-10
8	Line connection	Connect the FAX main unit to the telephone line. (Registration of line polarity not necessary).	P3-12
9	Communication test	Perform a test communication, and check transmission and reception operation, and image quality. (Based on the test results, perform adjustment and set as required).	P3-13
10	Adjustment	•Adjust speaker volume. •Adjust output level (ATT). •Adjust NL.	P3-14

2 BEFORE INSTALLATION

2.1 Caution

(1) When turning the power supply ON and OFF, always allow a 3-second or longer interval between switching.

2.2 Unpacking and Parts Verification

Tab. 3-2-1

ITEM	Q'ty	PART NO./PUB NO.			
		AUSTRALIA	AE	GERMANY	U.S.A.
Main Unit	1	H11-2328	H11-2329	H11-2325	H11-2322
Tray	1	HA1-2109			
Power Supply Code	1	WT3-5006	WT3-9095		WT3-0033
Connector Bar (Attached to main unit)	1	HA1-0649			
Modular Code	1	WS8-5032	HH2-1910	HH2-2073/2041	HH2-1260
Recording Paper (A4 or LTR × 30m)	1	HA1-7739			HA1-7740
Handset	1	HG1-2657			HG1-2185
Terminal Box	1		HG1-2743		
Address Label	1	HA1-2657			
Instruction book	1	H-IE-284	H-IE-282	H-IG-089	H-IE-280
Resistration Card	1	H-IE-285	H-IE-283		
Quick Reference Guide	1	H-ZE-641	H-ZE-640		H-ZE-639
Instruction Book (For CT-14)	1	H-ZE-322			
Handset Holder	1	HA1-6560			HA1-6560
Roulette Screw	2	XA9-0429			XA9-0429
Installation Completion Report	1				H-ZE-068
Limited Warranty Note	1				H-WE-015
Warranty Registration Card	1				H-WE-139

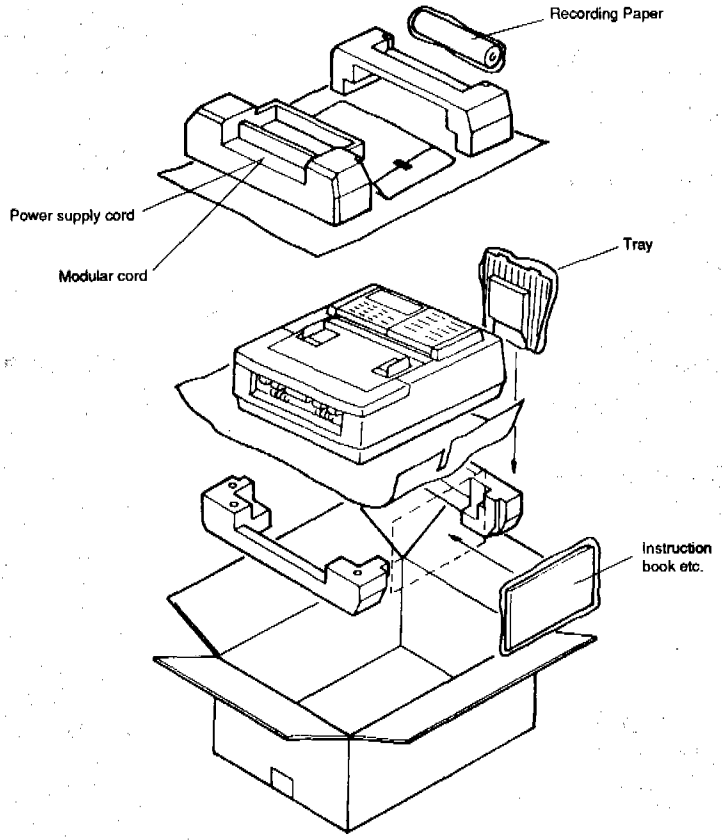


Fig. 3-2-1 Unpacking and Parts Verification

3 OPERATIONAL CHECK

3.1 Set The Recording Paper

1. Press the release button, and open the recording paper cover. Next. as shown in Fig. 3-3-1, set the recording paper.

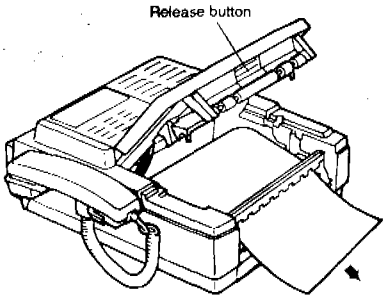
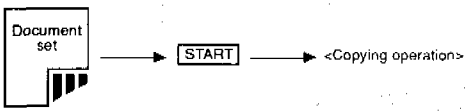


Fig. 3-3-1 Setting Recording Paper

3.2 Copying Operation

1. Turn ON the power supply, and make a copy. Verify that there are no abnormalities in operation or image.



4 BASIC CONNECTION

4.1 Handset Holder Installation

1. Fasten the Handset Holder with 2 screws.

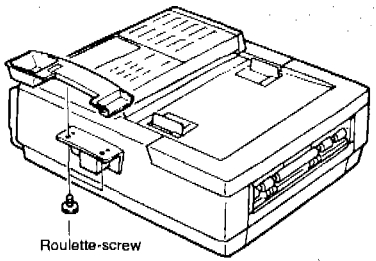


Fig. 3-4-1 Handset Holder Installation

4.2 Handset Connection

1. Remove the screw and dettach the Modular Cover.

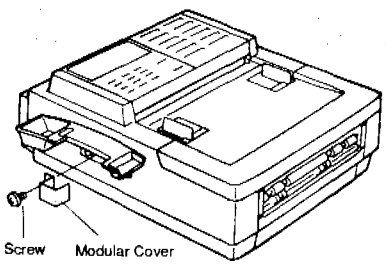


Fig. 3-4-2 Remove of Modular Cover

2. Connect the Handset to the terminal.

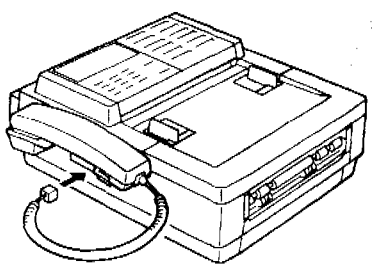


Fig. 3-4-3 Handset Connection

5 BASIC SETTINGS

5.1 Setting the Handset (Only for models with handsets)

5.1.1 FAX-T400

The handset ring tone volume can be adjusted to 3 positions:

HIGH: Ring tone volume high
LOW: Ring tone volume low
OFF: Ring tone not generated

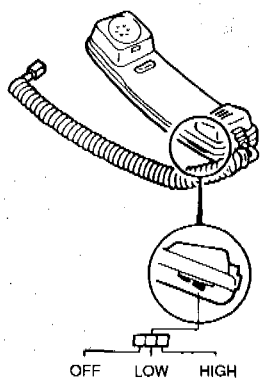


Fig. 3-5-1 Volume Adjustment

5.1.2 FAX-280

Set the switches on the left side of the handset using a pointed object. (See Fig. 3-5-2)

1. Ringing tone volume setting
   The volume of the handset ringing tone can be selected as follows.
   High .....Ringing tone high
   Low .....Ringing tone low
   OFF.....Ringing tone off

2. Dialing method
   Set the dialing method according to the line used.
   T .....Touch tone
   10 .....Rotary dial pulse (10PPS)
   20 .....Rotary dial pulse (20PPS)

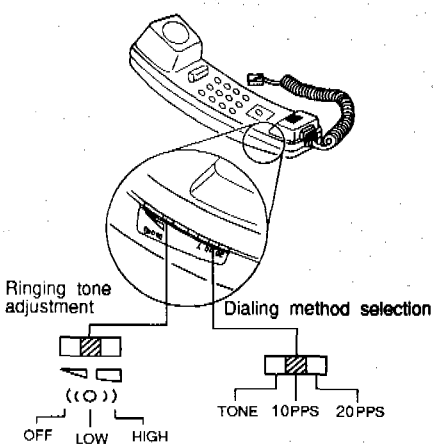


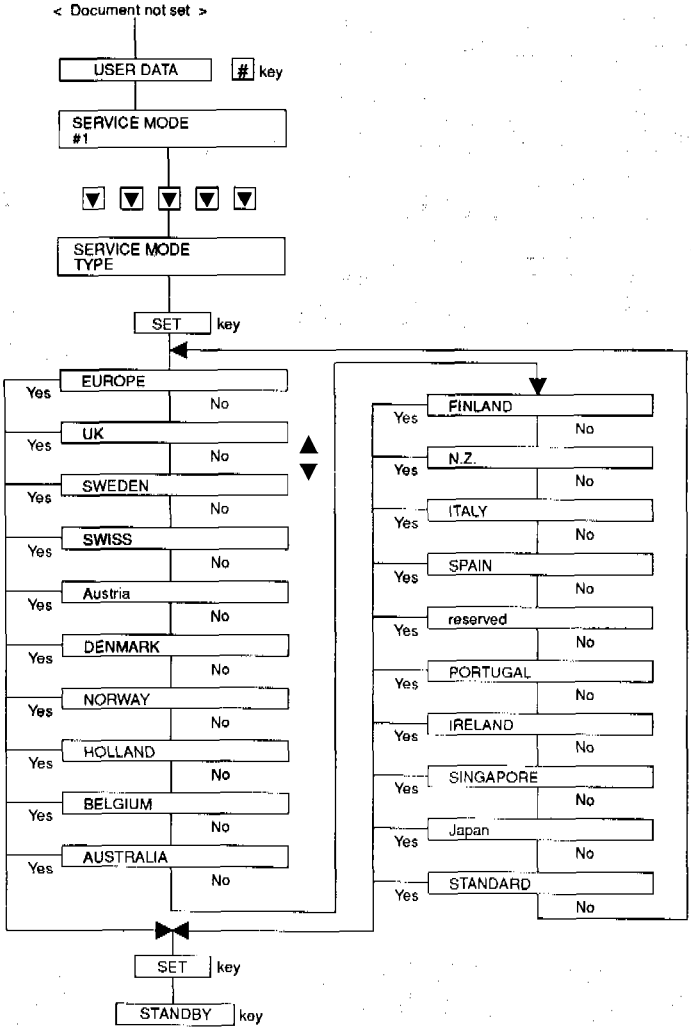
Fig. 3-5-2 Handset Setting

5.3 Soft Switch

5.3.1 Setting Type

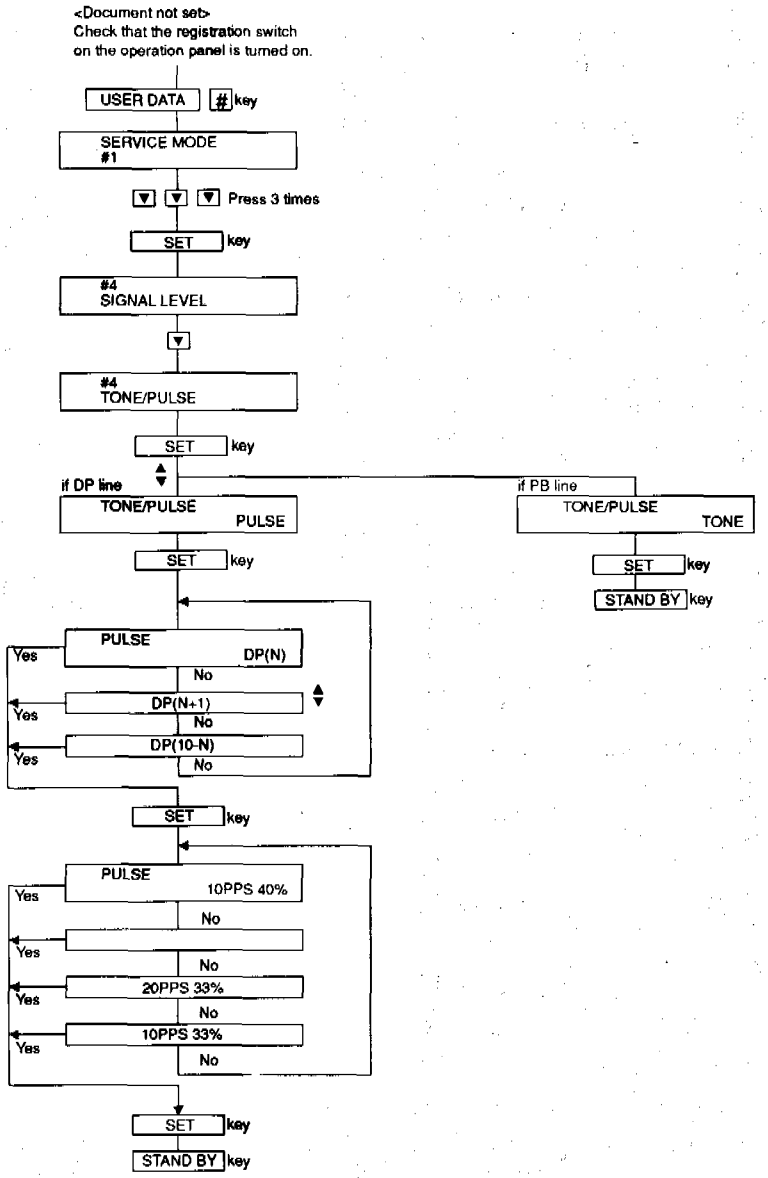
Perform the operation shown below to set the initial values.
The following items are included in the "Type".

DIAL TONE	MULTI (Sequential broadcasting/Multi-polling)
2nd DIAL TONE	AUTO RX
BUSY TONE	SPECIAL
REDIALING	(TONE/PULSE)



5.3.2 Setting PB/DP (TONE/PULSE)

Perform the following setting according to user's subscriber line.



5.4 NCU Card Switches

NCU card switches table is shown below

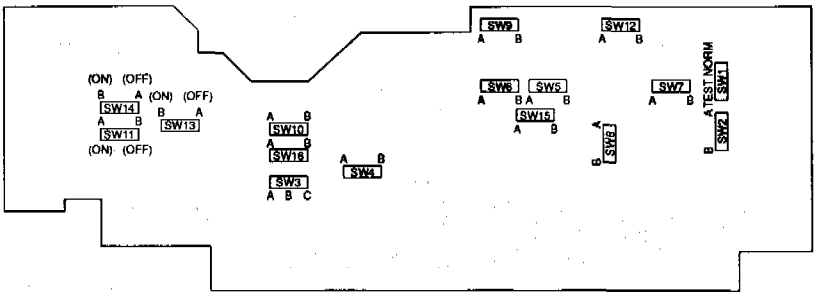


Fig. 3-5-3 NCU CARD UNIT

Tab. 3-5-1 NCU card switches table

	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	SW9	SW10	SW11	SW12	SW13	SW14	SW15	SW16
Australia	NORM	B	C	A	A	A	A	A	A	A	A	B	A	A	A	A
AE	NORM	B	C	A	A	A	A	A	A	A	A	B	A	A	A	A
Germany	NORM	B	A	A	A	A	A	A	A	A	A	B	A	A	A	A

SW1 : Test/Normal switch
SW2 : Service mode entry
SW3 : CI detecting sensitivity(V)
SW4 : CI detecting sensitivity(C)
SW5 : Spark quency(C)
SW6 : Spark quency(R)
SW7 : Tax charge pulse filter switch
SW8 : Return loss adjustment
SW9 : Swiss switch
SW10 : Noise reduction during dial pulse
SW11 : Out of Band noise reduction(STBY)
SW12 : Out of Band noise reduction(Tx/Rx)
SW13/14 : Earth Contact switches
SW15 : Danish switch
SW16 : Danish switch

6 TELEPHONE LINE CONNECTION

1. Remove the Sub Terminal Cover.

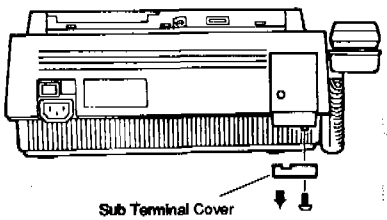


Fig. 3-6-1

2. Connect the Modular Cord to the terminal and the Line.

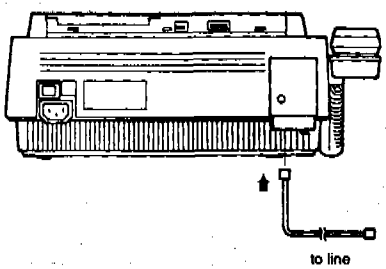


Fig. 3-6-2

3. Attach the Sub Terminal Cover.

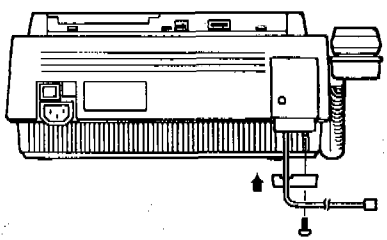
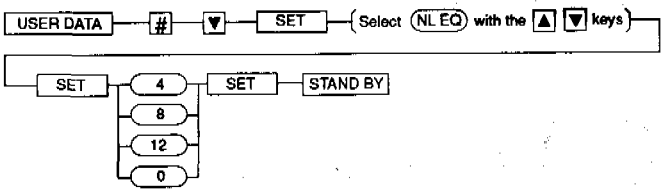


Fig. 3-6-3

8 ADJUSTMENT

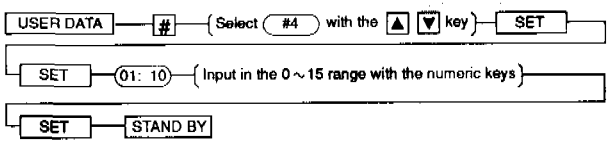
8.1 NL Adjustment (Factory Setting: 4dB)

• Turn the registration switch on.



8.2 Transmission Level (ATT) Adjustment (Factory Setting: -10dBm)

• Turn the registration switch on.



8.3 Speaker Volume Adjustment

Adjust the speaker volume with the speaker volume control.

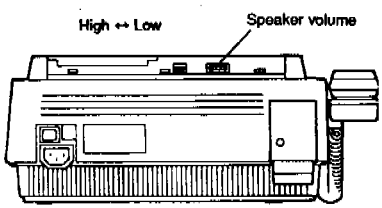


Fig. 3-8-1 Speaker volume

1 TROUBLESHOOTING

This section describes the main causes of failure, and appropriate actions. The actual causes or actions may be different from those described.

1.1 Preface to Troubleshooting

1.1.1 How to use the troubleshooting tables

ex.) No power

Tab. 4-1-1

Cause	Step	Check	Result	Action
Power supply cord	1	Is the outlet of power supply cord plugged in?	No	Plug the outlet of power supply cord in.
Power switch	2	Is the power switch of the back of the machine ON?	No	Turn the power switch ON.
Outlet	3	Does the power outlet provide the correct voltage?	No	Tell the user that there is no problem with the facsimile machine.
Connector	4	Is CN1 on the SCNT card unit plugged in properly?	No	Plug the connector in properly.
Fuse	5	Has the power supply fuse blown?	Yes	Replace the fuse.
Power supply unit	6	Check the power supply output. Is the measurement value within the tolerable range? For the method of checking, refer to Unit Replacement.	No	Replace the power supply unit.
SCNT card unit			Yes	Replace the SCNT card unit.

The above table shows that "No power" may indicate a problem with the power supply cord, power switch, outlet, connector, fuse, power supply unit, or SCNT card unit.

To solve the problem, carry out the check item in Step 1, and if the result is the same as that in the Result column, carry out the action described in the Action column. If the result is not the same as that in the Result column, proceed the Step 2.

A flowchart representing the above table is given on the next page.

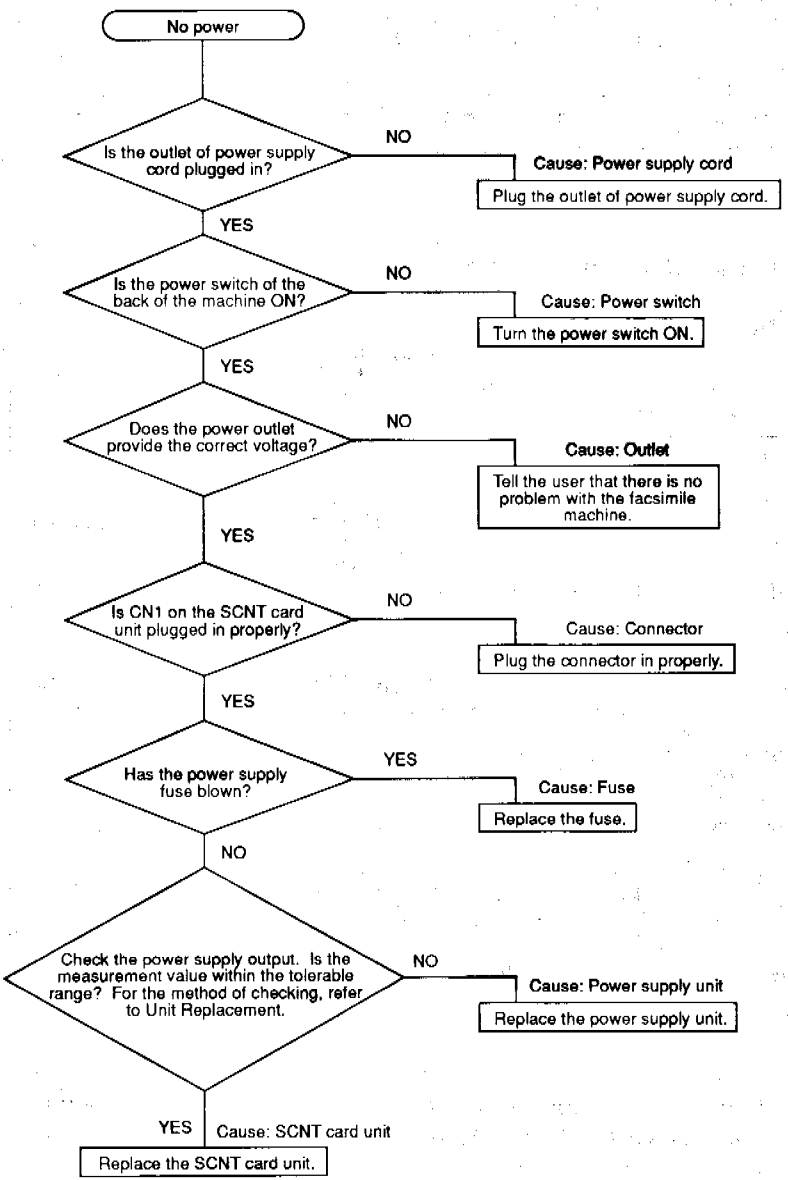

No power
Is the outlet of power supply cord plugged in?
NO
Cause: Power supply cord
Plug the outlet of power supply cord.
YES
Is the power switch of the back of the machine ON?
NO
Cause: Power switch
Turn the power switch ON.
YES
Does the power outlet provide the correct voltage?
NO
Cause: Outlet
Tell the user that there is no problem with the facsimile machine.
YES
Is CN1 on the SCNT card unit plugged in properly?
NO
Cause: Connector
Plug the connector in properly.
YES
Has the power supply fuse blown?
YES
Cause: Fuse
Replace the fuse.
NO
Check the power supply output. Is the measurement value within the tolerable range? For the method of checking, refer to Unit Replacement.
NO
Cause: Power supply unit
Replace the power supply unit.
YES
Cause: SCNT card unit
Replace the SCNT card unit.

Fig. 4-1-1

1.1.2 Three-point Communication

If "Three-point communication" is printed in the Action column of the troubleshooting table, perform the following communication test.

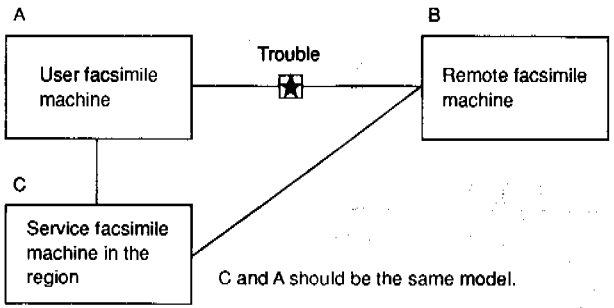


Fig. 4-1-2

(1) When the user facsimile machine is reception side

Tab. 4-1-2

Step	Check	Result	Action
1	Can C transmit data to A normally?	No	A is faulty. Check A.
2	Can B transmit data to C normally?	No	B is faulty. Check B.
		Yes	The line is faulty. Check the line.

(2) When the user facsimile machine is transmission side

Tab. 4-1-3

Step	Check	Result	Action
1	Can A transmit data to C normally?	No	A is faulty. Check A.
2	Can C transmit data to B normally?	No	B is faulty. Check B.
		Yes	The line is faulty. Check the line.

1.2 Power Supply

1.2.1 No power

Tab. 4-1-4

Cause	Step	Check	Result	Action
Power supply cord	1	Is the outlet of power supply cord plugged in?	NO	Plug the outlet of power supply cord in.
Power switch	2	Is the power switch of the back of the machine ON?	NO	Turn the power switch ON.
Outlet	3	Does the power outlet provide the correct voltage?	NO	Tell the user that there is no problem with the facsimile machine.
Connector	4	Is CN1 on the SCNT card unit, plugged in properly?	NO	Plug the connector in properly.
Fuse	5	Has the power supply fuse blown?	NO	Replace the fuse.
Power supply unit	6	Check the power supply output. Is the measurement value within the tolerable range? For the method of checking, refer to Unit Replacement.	NO	Replace the power supply unit.
SCNT card unit			Yes	Replace the SCNT card unit.

1.3 Display

1.3.1 LCD does not display at all.

Tab. 4-1-5

Cause	Step	Check	Result	Action
Power supply	1	Is the power ON?	NO	Refer to "No power".
Connector	2	Are the connectors of the cable between the operation panel unit and the SCNT card unit plugged in properly?	NO	Plug the connectors in properly.
OP.CNT card unit	3	Do the keys and lamps on the operation panel work properly? Is the automatic reception operation normal?	YES	Replace the OP.CNT card unit.
SCNT card unit			NO	Replace the SCNT card unit.

1.3.2 LCD displays with problem.

Tab. 4-1-6

Cause	Step	Check	Result	Action
Connector	1	Are the connectors of the cable between the operation panel unit and the SCNT card unit plugged in properly?	NO	Plug the connectors in properly.
OP.CNT card unit	2	Do the keys and lamps on the operation panel work properly? Is the automatic reception operation normal?	YES	Replace the OP.CNT card unit.
SCNT card unit			NO	Replace the SCNT card unit.

1.4 Keys

1.4.1 Key does not work.

Tab. 4-1-7

Cause	Step	Check	Result	Action
Service protect switch	1	Does the key not work only when SSSW is registered?	Yes	Turn the service protect switch OFF.
Key	2	Has the key jammed?	Yes	Clean the key. If the operation is still faulty, replace the key.
Connector	3	Is CN21 on the SCNT card unit plugged in properly?	No	Plug the connector in properly.
OP.CNT card unit	4	Is the automatic reception operation normal?	No	Replace the OP.CNT card unit.
SCNT card unit			Yes	Replace the SCNT card unit.

1.5 Copy

1.5.1 Reception starts when the START key is pressed.

Tab. 4-1-8

Cause	Step	Check	Result	Action
Document	1	Is the document set properly?	No	Advise the user to insert the document fully.
DS			Yes	The DS is faulty. Replace the OP.CNT card unit.

1.6 Document Feed

1.6.1 Document is not fed through.

Tab. 4-1-9

Cause	Step	Check	Result	Action
DS	1	Does the DS work properly during the sensor test in test mode?	No	The DS is faulty. Replace the OP.CNT card unit.
Connector	2	Is CN21 on the SCNT card unit plugged in properly?	No	Plug the connector in properly.
ADF section SCNT card	3	Clean the ADF section with isopropyl alcohol. Does the document fail to feed through?	Yes	Replace the separation guide, separation roller, and document feed roller. If the document still fails to feed through, replace the SCNT card unit.

1.6.2 Document feed problem (Double feed, skew, etc.)

Tab. 4-1-10

Cause	Step	Check	Result	Action
Connector	1	Is CN21 on the SCNT card unit plugged in properly?	No	Plug the connector in properly.
ADF section SCNT card unit	2	Clean the ADF section with isopropyl alcohol. Does the document fail to feed through?	Yes	Replace the separation guide, separation roller, and separation sub-roller. If the document does not feed through properly, replace the SCNT card unit.

1.6.3 Document does not stop, but passes through.

Tab. 4-1-11

Cause	Step	Check	Result	Action
DES	1	Does the DES work properly during the sensor test in test mode?	No	The DES is faulty. Replace the OP.CNT card unit.
SCNT card unit			Yes	Replace the SCNT card unit.

1.7 Recording Paper Feed

1.7.1 "Check recording paper" is displayed although recording paper is set.

Tab. 4-1-12

Cause	Step	Check	Result	Action
Recording paper cover	1	Is the recording paper cover, closed properly?	No	Close the recording paper cover properly.
RPS	2	Does the RPS work properly during the sensor test in test mode?	No	Replace the RPS.
CVS	3	Does the CVS work properly during the sensor test in test mode?	No	Replace the CVS.
Connector	4	Are CN16 and CN12 on the SCNT card unit plugged in properly?	No	Plug the connectors in properly.
SCNT card unit			Yes	Replace the SCNT card unit.

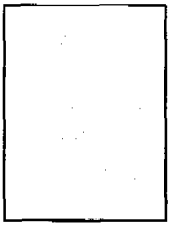
1.7.2 Recording paper feed error

Tab. 4-1-13

Cause	Step	Check	Result	Action
Recording paper	1	Has the recording paper wrapped around the platen roller or gotten caught?	Yes	Remove the recording paper.
Connector	2	Is CN2 on the SCNT card unit plugged in properly?	No	Plug the connector in properly.
Recording gear unit	3	Does the document feed roller move during the main unit aging test in test mode?	Yes	Replace the recording gear unit.
SCNT card unit			No	Replace the SCNT card unit.

1.8 Copy Image

1.8.1 All white



Tab. 4-1-14

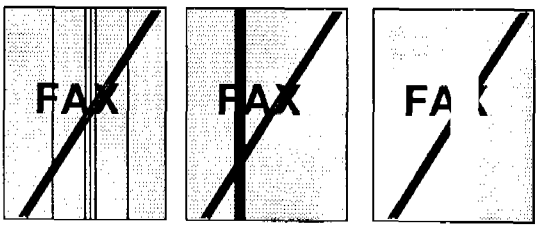
Cause	Step	Check	Result	Action
Recording paper	1	Has the recording paper been set back to front?	Yes	Set the recording paper correctly, and show the user how to do it.
Connector	2	Is the thermal head unit connector plugged in properly?	No	Plug the connector in properly.
Connector	3	Is CN13 on the SCNT card unit plugged in properly?	No	Plug the connector in properly.
Thermal head unit	4	Is the recording test print during test mode normal?	No	Replace the thermal head unit.
SCNT card unit			Yes	Replace the SCNT card unit.

1.8.2 All black

Tab. 4-1-15

Cause	Step	Check	Result	Action
Connector (contact sensor unit)	1	Is the contact sensor unit connector plugged in properly?	No	Plug the connector in properly.
Connector (SCNT card unit)	2	Are CN7 on the SCNT card unit plugged in properly?	No	Plug the connectors in properly.
Contact sensor unit			Yes	Replace the contact sensor unit.

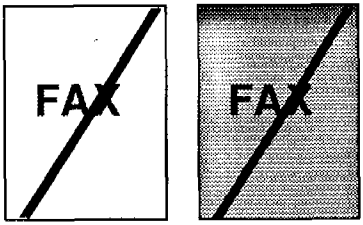
1.8.3 Thin black lines, thick black lines, thick white lines



Tab. 4-1-16

Cause	Step	Check	Result	Action
Thermal head unit	1	Is the recording test print during test mode normal?	No	Replace the thermal head unit.
Scanning unit	2		Yes	Reconnet the scanning unit relating connectors or replace scanning unit and SCNT card in this order.

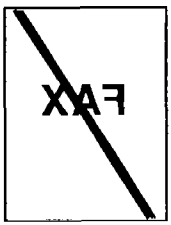
1.8.4 Too light or too dark



Tab. 4-1-17

Cause	Step	Check	Result	Action
Thermal head unit	1	Is the recording test print during test mode normal?	No	Clean the thermal head unit. If printing is still not normal, replace the thermal head unit.
SCNT card unit	2	Is the received image normal?	No	Replace the SCNT card unit.

1.8.5 Light and reversed



Tab. 4-1-18

Cause	Step	Check	Result	Action
Recording paper	1	Has the recording paper been set back to front?	Yes	Set the recording paper correctly, and show the user how to do it.
SCNT card unit			No	Replace the SCNT card unit.

1.9 Transmission

1.9.1 The other facsimile machine is not connected.

Tab. 4-1-19

Cause	Step	Check	Result	Action
Modular cord	1	Is the modular cord plugged in properly?	No	Plug the modular cord in properly.
Telephone line setting	2	Is the telephone line setting (DB/PB, 10/20 pps) correct?	No	Change the line setting with the tone/pulse switch on the bottom of the facsimile machine.
ATT	3	Is the reception operation normal?	Yes	Adjust ATT.
NCU card unit	4	Does the telephone work properly?	No	Replace the NCU card unit.
SCNT card unit	5	Is the copy operation normal?	No	Replace the SCNT card unit.
			Yes	Perform three-point communication.(*1)

1.9.2 The other facsimile machine is connected, but transmission is not possible.

Tab. 4-1-20

Cause	Step	Check	Result	Action
Error code	1	Is an error code displayed?	Yes	Refer to "5 Error Codes".
Document feed	2	Is the document fed correctly?	No	Refer to "Document Feed".
SCNT card unit	3	Is the copy operation normal?	No	Replace the SCNT card unit.
NCU card unit	4	Is the copy operation normal?	No	Replace the NCU card unit.
			Yes	Perform three-point communication. (*1)

*1 Refer to "1.1.2 Three-point Communication".

1.10 Reception

1.10.1 The other facsimile machine is not connected.

Tab. 4-1-21

Cause	Step	Check	Result	Action
Modular cord	1	Is the modular cord plugged in properly?	No	Plug the modular cord in properly.
NCU card unit	2	Does the telephone work properly?	No	Replace the NCU card unit.
SCNT card unit	3	Is the copy operation normal?	No	Replace the SCNT card unit.
			Yes	Perform three-point communication. (*1)

1.10.2 The other facsimile machine is connected, but reception is not possible.

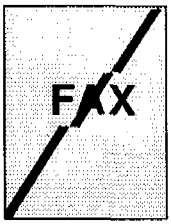
Tab. 4-1-22

Cause	Step	Check	Result	Action
Error code	1	Is an error code displayed?	Yes	Refer to "5 Error Codes".
Recording paper	2	Has the recording paper been set correctly?	No	Set the recording paper correctly.
SCNT card unit	3	Is the copy operation normal?	No	Replace the SCNT card unit.
NCU card unit	4	Is the reception operation normal?	No	Replace the NCU card unit.
			Yes	Perform three-point communication. (*1)

*1 Refer to "1.1.2 Three-point Communication".

1.11 Received Image

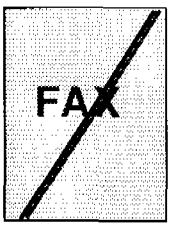
1.11.1 Line missing



Tab. 4-1-23

Cause	Step	Check	Result	Action
Line	1	Is the copy image normal?	Yes	The line is faulty. Ask the other party to retransmit.
			No	Refer to "Copy Image".

1.11.2 Blurred image



Tab. 4-1-24

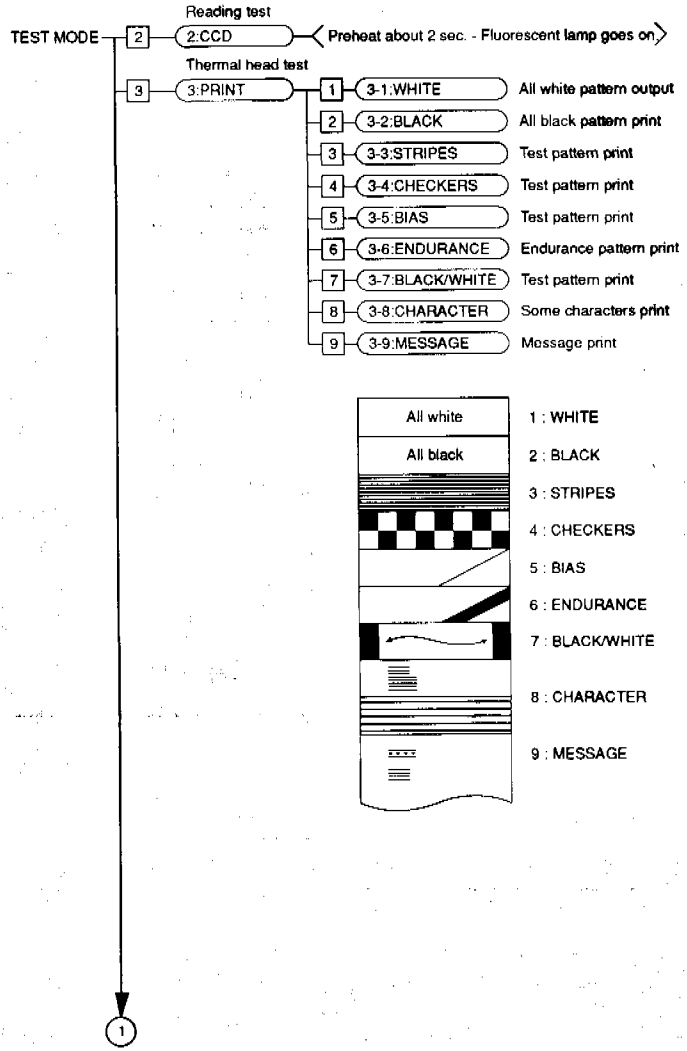
Cause	Step	Check	Result	Action
Line or other facsimile machine	1	Is the copy image normal?	Yes	Perform three-point communication. (*1)
			No	Refer to "Copy Image".

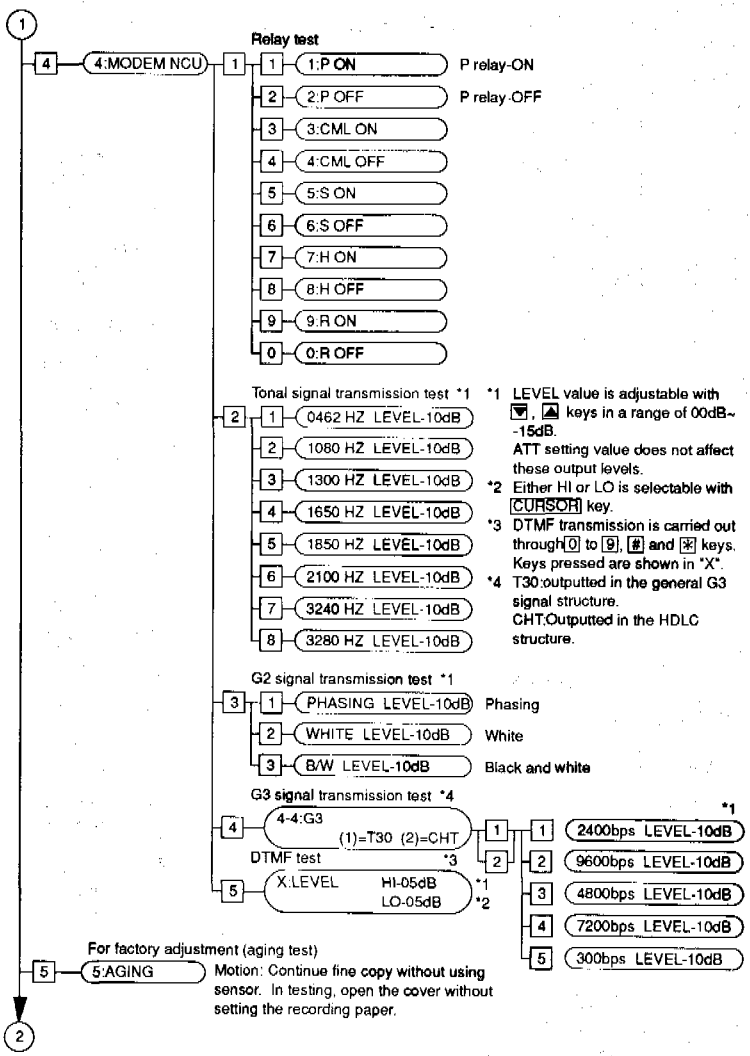
*1 Refer to "1.1.2 Three-point Communication".

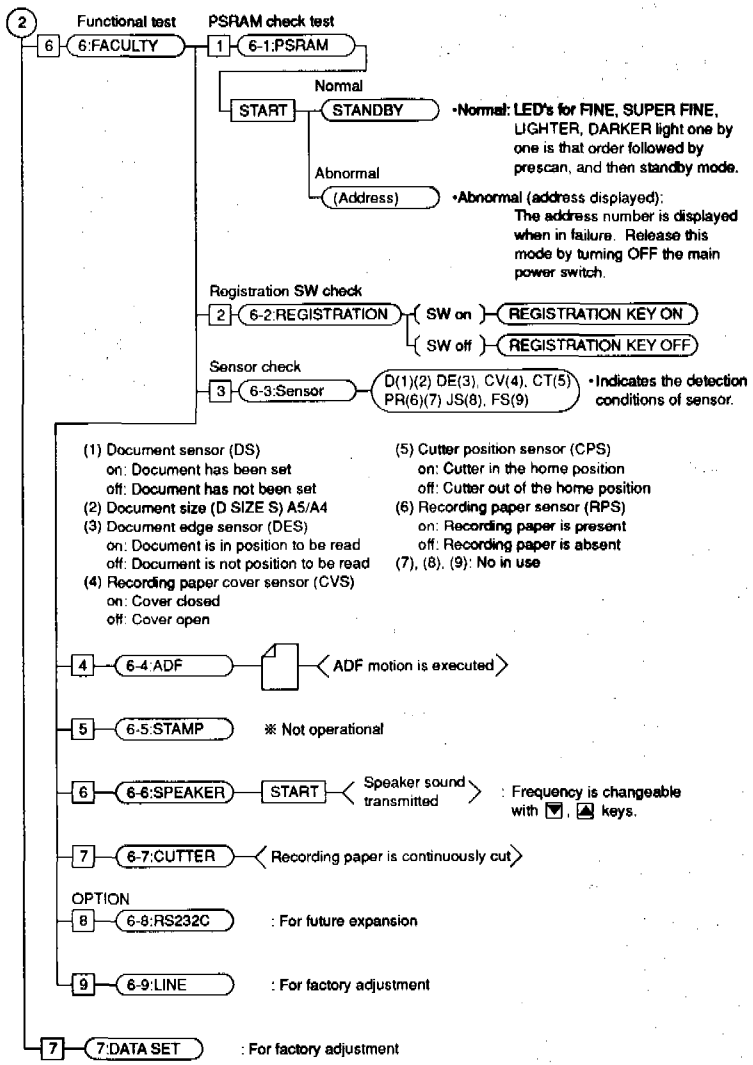
2 TEST MODE

2.1 Test Mode Operation

Select TEST MODE by service soft switch (without document, USER DATA #). Release each mode with STANDBY key.
Cancel the test mode with STOP key.




1
4
4:MODEM NCU
Relay test
1
1:P ON
P relay-ON
2:P OFF
P relay-OFF
3:CML ON
4:CML OFF
5:S ON
6:S OFF
7:H ON
8:H OFF
9:R ON
0:R OFF
Tonal signal transmission test *1
2
0462 HZ LEVEL-10dB
1080 HZ LEVEL-10dB
1300 HZ LEVEL-10dB
1650 HZ LEVEL-10dB
1850 HZ LEVEL-10dB
2100 HZ LEVEL-10dB
3240 HZ LEVEL-10dB
3280 HZ LEVEL-10dB
*1 LEVEL value is adjustable with ▼, ▲ keys in a range of 00dB~ -15dB.
ATT setting value does not affect these output levels.
*2 Either HI or LO is selectable with CURSOR key.
*3 DTMF transmission is carried out through 0 to 9, # and * keys. Keys pressed are shown in "X".
*4 T30:outputted in the general G3 signal structure.
CHT:Outputted in the HDLC structure.
G2 signal transmission test *1
3
PHASING LEVEL-10dB
Phasing
WHITE LEVEL-10dB
White
B/W LEVEL-10dB
Black and white
G3 signal transmission test *4
4
4-4:G3
(1)=T30 (2)=CHT
DTMF test *3
5
X:LEVEL
HI-05dB *1
LO-05dB *2
*1
2400bps LEVEL-10dB
9600bps LEVEL-10dB
4800bps LEVEL-10dB
7200bps LEVEL-10dB
300bps LEVEL-10dB
For factory adjustment (aging test)
5
5:AGING
Motion: Continue fine copy without using sensor. In testing, open the cover without setting the recording paper.
2


2
Functional test
PSRAM check test
6
6:FACULTY
1
6-1:PSRAM
Normal
START
STANDBY
•Normal: LED's for FINE, SUPER FINE, LIGHTER, DARKER light one by one is that order followed by prescan, and then standby mode.
Abnormal
(Address)
•Abnormal (address displayed): The address number is displayed when in failure. Release this mode by turning OFF the main power switch.
Registration SW check
2
6-2:REGISTRATION
SW on
REGISTRATION KEY ON
SW off
REGISTRATION KEY OFF
Sensor check
3
6-3:Sensor
D(1)(2) DE(3), CV(4), CT(5) PR(6)(7) JS(8), FS(9)
•Indicates the detection conditions of sensor.
(1) Document sensor (DS)
on: Document has been set
off: Document has not been set
(2) Document size (D SIZE S) A5/A4
(3) Document edge sensor (DES)
on: Document is in position to be read
off: Document is not position to be read
(4) Recording paper cover sensor (CVS)
on: Cover closed
off: Cover open
(5) Cutter position sensor (CPS)
on: Cutter in the home position
off: Cutter out of the home position
(6) Recording paper sensor (RPS)
on: Recording paper is present
off: Recording paper is absent
(7), (8), (9): No in use
4
6-4:ADF
ADF motion is executed
5
6-5:STAMP
※ Not operational
6
6-6:SPEAKER
START
Speaker sound transmitted
: Frequency is changeable with ▼, ▲ keys.
7
6-7:CUTTER
Recording paper is continuously cut
OPTION
8
6-8:RS232C
: For future expansion
9
6-9:LINE
: For factory adjustment
7
7:DATA SET
: For factory adjustment

3 PREPARING FOR REPAIR

3.1 Matters for Attention

1. To replace units or to unplug connectors or plug them in, turn the power switch OFF.
2. Do not touch the contacts of connectors.
3. Make sure connectors are the right way round and aligned properly when plugging them in.

3.2 Special Tools

This facsimile machine does not require any special tools.

3.3 Adjustment and Resetting after Unit Replacement

Depending on the unit, adjustment may be necessary after replacement. The units and items are shown in Tab. 4-3-1.

Tab. 4-3-1 Replacing unit adjustment

Adjustment / Unit replaced	Slice level adjustment	Setting of one-touch dials, soft switches and all registered data	Adjustment of TPH corrective resistance value
SCNT card	*	Y	Y
Scanning unit	*		
Battery		Y	
T.P.H. unit			Y

Y: Adjustment or setting must be redone when unit is replaced.
*: Must be adjusted depending upon conditions.

4 UNIT REPLACEMENT

4.1 Flow of Disassembly

4.2 Basic Disassembly Procedure

Turn the power switch OFF, unplug the power cord, and disassemble as follows:

4.2.1 Basic disassembly procedure 1

1. Remove the sub terminal cover and disconnect the modular cord.

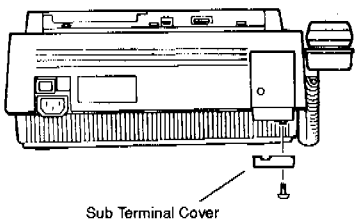


Fig. 4-4-1

2. Remove the terminal cover

Tab. 4-4-1 Modular Jack Connection

Line Color	Terminal
White	T1
Black	ARG
Red	L1
Green	L2
Blue	T2

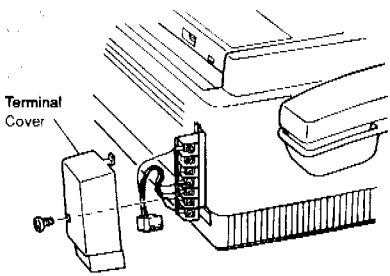


Fig. 4-4-2

3. Open the operation panel, and remove the screw.

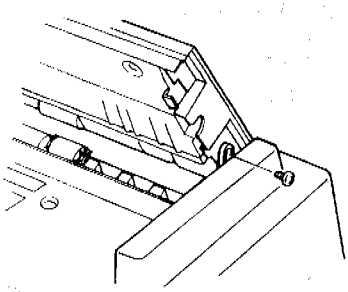


Fig. 4-4-3

4. Open the operation panel fully.

5. Open the recording paper cover.

6. Remove 4 screws.

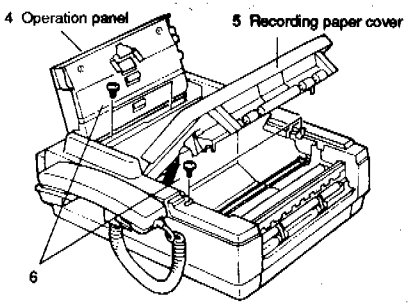


Fig. 4-4-4

7. Remove the upper cover.

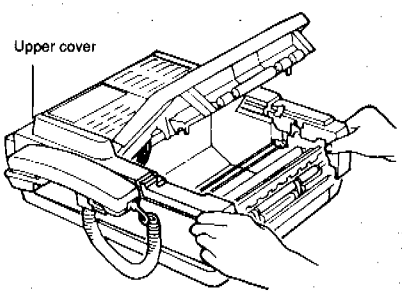


Fig. 4-4-5

8. Fig. 4-4-6 shows the result of basic disassembly procedure 1.

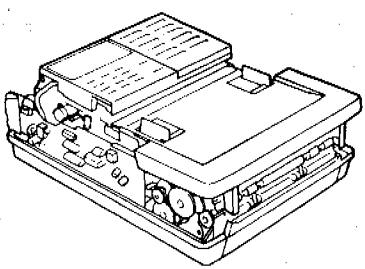


Fig. 4-4-6 Basic disassembly procedure 1

4.2.2 Basic disassembly procedure 2

1. After basic disassembly procedure 1, remove 4 screws and close the operation panel. Then raise the chassis and fix it with the chassis stay.

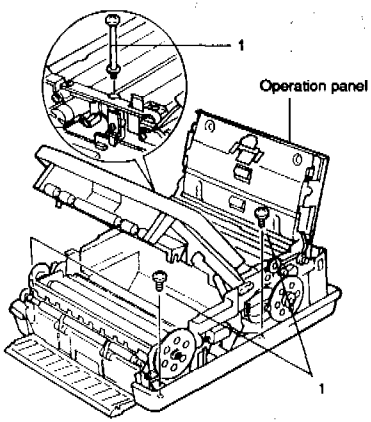


Fig. 4-4-7

2. Fig. 4-4-8 shows the result of basic disassembly procedure 2.

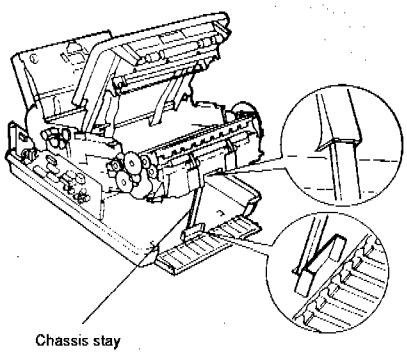


Fig. 4-4-8 Basic disassembly procedure 2

4.2.3 Basic disassembly procedure 3

1. After basic disassembly procedure 2, remove each connector on the SCNT card.
2. Remove the NCU card and grounding wire.

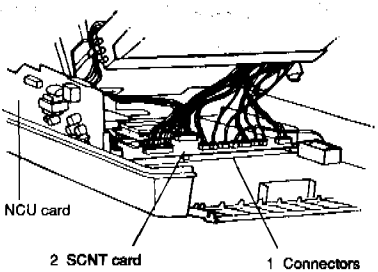


Fig. 4-4-9

3. Remove the chasis stay and return the chasis to the original position.
4. Remove 2 screws and grounding wire which connect the power supply unit.
5. Disconnect the connector CN21 (between SCNT and OP. Panel Unit) and CN1 (between TPH and PW).

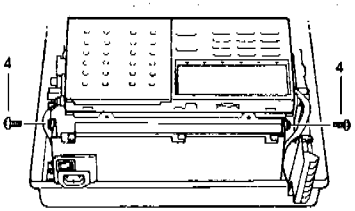


Fig. 4-4-10

6. Fig. 4-4-11 shows the result of basic disassembly procedure 3.

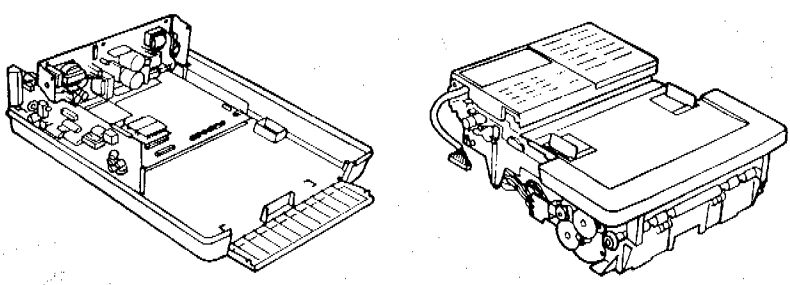


Fig. 4-4-11 Basic disassembly procedure 3

4.3 SCNT Card Unit

4.3.1 Disassembly procedure

1. Perform basic disassembly procedure 3.
2. Remove 2 screws and disconnect the connecter CN1 on the SCNT card.
3. Dismount the SCNT card unit.

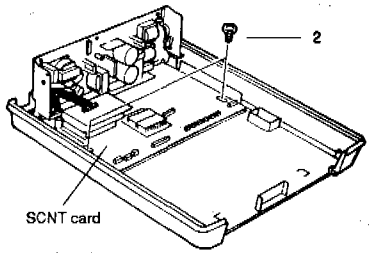


Fig. 4-4-12

4.3.2 Assembly procedure

Assemble the unit by reversing disassembly.

4.4 Power Supply Unit

4.4.1 Disassembly procedure

1. Perform basic disassembly procedure 3.
2. Remove 4 screws and disconnect the connector CN1 on the SCNT card.
3. Dismount the power supply unit.

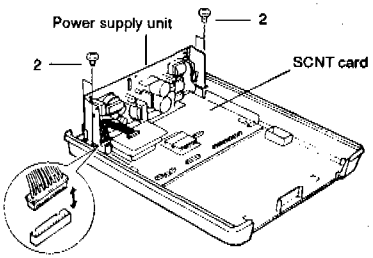


Fig. 4-4-13

4.4.2 Output check

1. Check that the fuse is not broken in the power supply unit.
   Parts No. of fuse: WD1-0095-000
   (250V 3.15A)

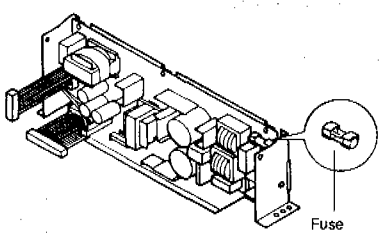


Fig. 4-4-14

2. Make a short circuit between the connector's pin 11 and pin 12 using the clip.
3. Attach the digital multimeter to the connector to read the output, while referring to the following tables.

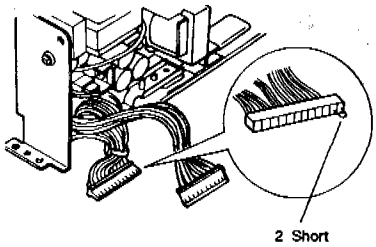


Fig. 4-4-15

Tab. 4-4-2 Output of CN1's pins

Pin No. of CN1	1	2	3	4	5	6	7	8	9	10	11	12
Output voltage	+5V	+5V	GND	GND	+12V	GND	−12V	+24V	+24V	GND	GND	RC

Tab. 4-4-3 Output check

Output voltage	Pin No.	Ground (Pin No.)	Allowable range
+5V	1		4.75 ~ 5.25
+12V	5		11.4 ~ 12.6
−12V	7	3	−11.4 ~ −12.6
+24V	9	(or 4, 10, 11)	22.8 ~ 25.2

Note) If 11 and 12 pins do not short completely, ±12V and +24V are not outputted.

4.4.3 Assembly procedure

Assemble the unit by reversing disassembly.

4.5 Scanning Unit

4.5.1 Disassembly procedure

1. Perform basic disassembly procedure 3.
2. Stand the body chassis upright as illustrated in the figure.
3. Remove the screw and grounding wire.
4. Remove 2 stepped-screws and take off the scanning unit.
5. Remove 2 stepped-screws to remove the scanning unit cover.
6. The scanning unit is illustrated on the right.

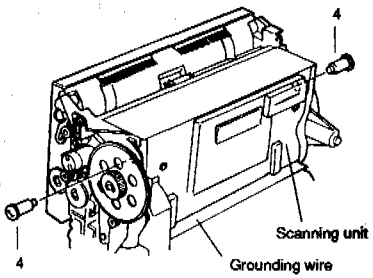


Fig. 4-4-16

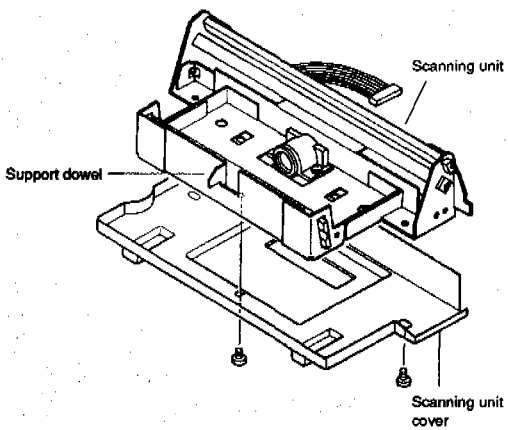


Fig. 4-4-17

4.5.2 Assembly procedure

Assemble the unit by reversing disassembly.

* Do not forget to put the scanning unit cover back, using the original stepped screws.
* Be sure to let the support dowel come into section A.

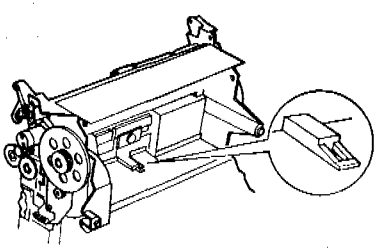


Fig. 4-4-18

4.6 Cutter Unit

4.6.1 Disassembly procedure

1. Perform basic disassembly procedure 2.
2. Open the recording paper cover.
3. Remove 2 screws to remove cutter lock stay.

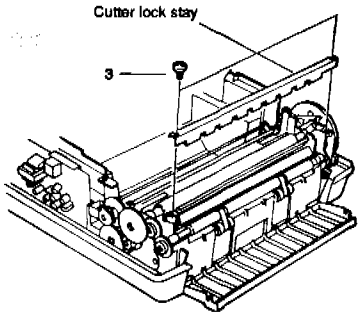


Fig. 4-4-19

4. Remove the E ring and the gears A and B.

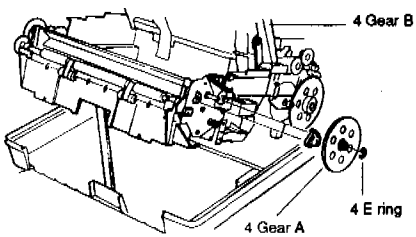


Fig. 4-4-20

5. Remove the spring and remove the E ring to remove the lever, decurl unit.

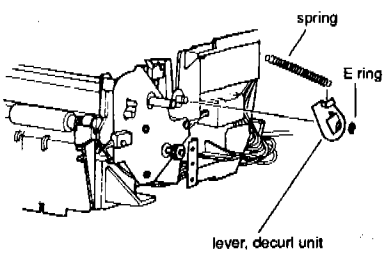


Fig. 4-4-21

6. Remove the stopper to remove the decurl unit.

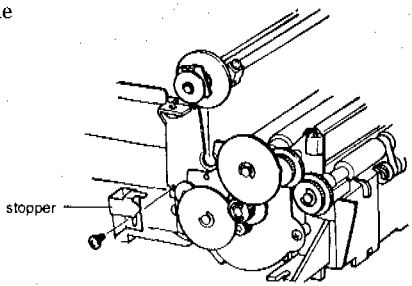


Fig. 4-4-22

7. Remove the E rings and the gears.

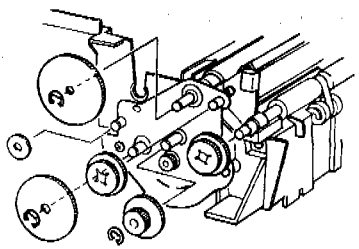


Fig. 4-4-23

8. Remove 3 screws to remove the bracket.

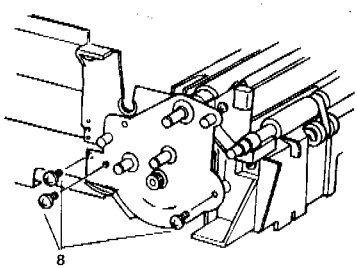


Fig. 4-4-24

9. While holding the document delivery roller at the left hand side, pull it gently to the front with one hand (see the figure) and then remove the cutter with the other hand.

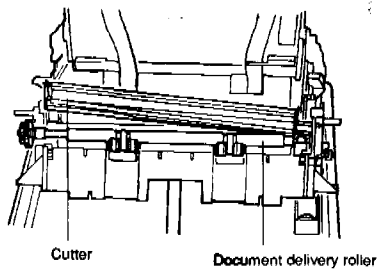


Fig. 4-4-25

10. The cutter unit is illustrated in Fig. 4-4-26.

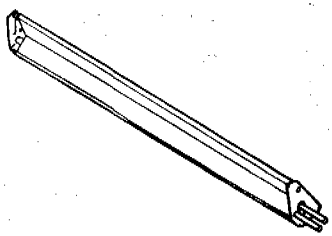


Fig. 4-4-26

4.6.2 Assembly procedure

Assemble the unit by reversing disassembly.

4.7 Speaker Unit

4.7.1 Disassembly procedure

1. Perform basic disassembly procedure 2.
2. Disconnect the connector CN20 on the SCNT card unit.
3. Perform ADF parts disassemble. (See P.4-34)
4. Remove 2 screws to remove the speaker unit.

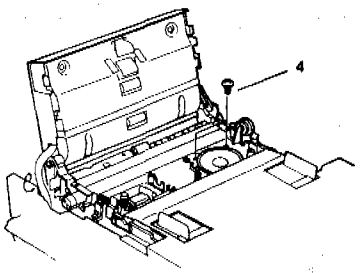


Fig. 4-4-27

4.7.2 Assembly procedure

Assemble the unit by reversing disassembly.

4.8 NCU Card Unit

4.8.1 Disassembly procedure

1. Perform basic disassembly procedure 2.
2. Disconnect the NCU card unit gently.
3. Remove the screw to remove the grounding wire.
4. Loose the terminal screws to remove the modular jack.

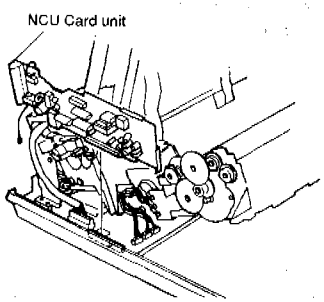


Fig. 4-4-28

4.8.2 Assembly procedure

Assemble the unit by reversing disassembly.

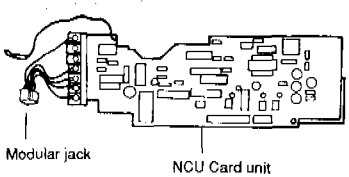


Fig. 4-4-29 NCU card unit

4.9 Operation Panel Unit.

4.9.1 Disassembly procedure

1. Perform basic disassembly procedure 1.
2. Remove the screw to remove the grounding wire.
3. Disconnect the connector CN21.
4. Remove two screws to remove the operation panel unit.

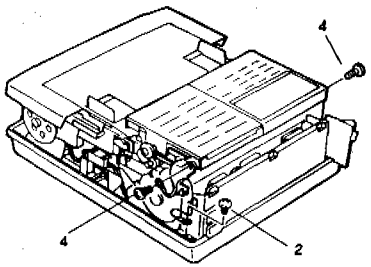


Fig. 4-4-30

5. The figure shows the operation panel unit.

4.9.2 Assembly procedure

Assemble the unit by reversing disassembly.

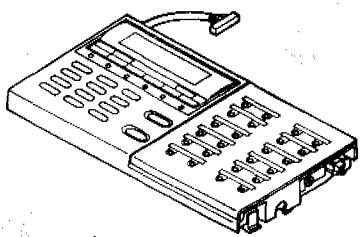


Fig. 4-4-31 Operation Panel Unit

4.10 Fluorescent Lamp

4.10.1 Disassembly procedure

1. Perform basic disassembly procedure 1.
2. Turn the fluorescent lamp in the direction indicated by the arrow so as to disconnect from the terminals.
3. Pull the lamp out of the body.

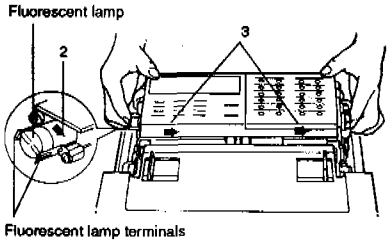


Fig. 4-4-32

4.10.2 Assembly procedure

Assemble the unit by reversing disassembly.

* You do not need to care about the insertion direction of the lamp.

4.11 Inverter Unit

4.11.1 Disassembly procedure

1. Perform basic disassembly procedure 1.
2. Remove 6 screws to remove the lower document table.

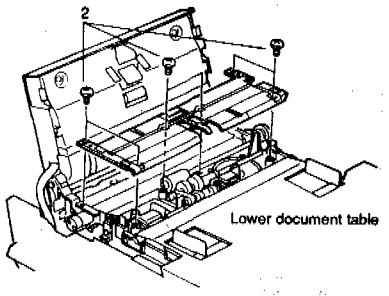


Fig. 4-4-33

3. Remove 3 screws to remove the inverter unit.
4. Disconnect the connector on the inverter unit.

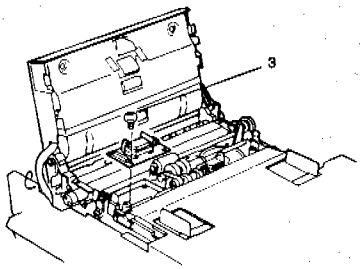


Fig. 4-4-34

4.11.2 Assembly procedure

Assemble the unit by reversing disassembly.

4.12 ADF Parts

4.12.1 Separation roller / Separation sub-roller

(1) Disassembly procedure

1. Perform Inverter unit disassembly procedure steps 1 to 2.
2. With reference to Fig. 4-4-35, remove the separation roller and separation sub-roller.

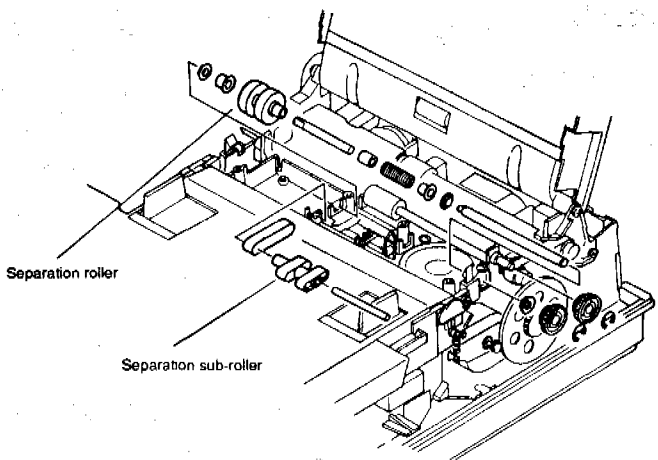


Fig. 4-4-35

(2) Assembly procedure

Assemble the parts by reversing disassembly.

4.12.2 Separation guide

(1) Disassembly procedure

1. Perform basic disassembly procedure 1.
2. Remove 2 screws.
3. Close the upper document cover in the direction of the arrow, and remove the operation panel cover.

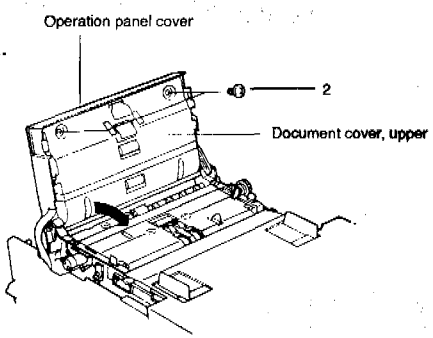


Fig. 4-4-36

4. Remove the separation guide, while refering to Fig. 4-4-37.

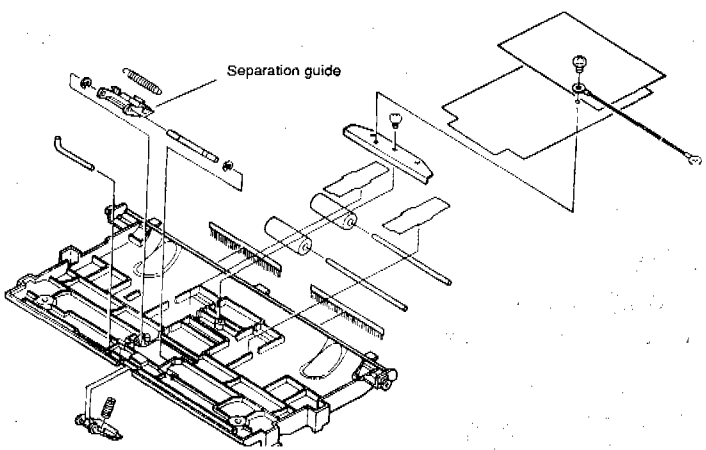


Fig. 4-4-37

(2) Assembly procedures

Assemble the parts by reversing disassembly.

4.13 TPH Unit

4.13.1 Disassembly procedure

1. Open the operation panel cover.
2. Open the recording paper cover.

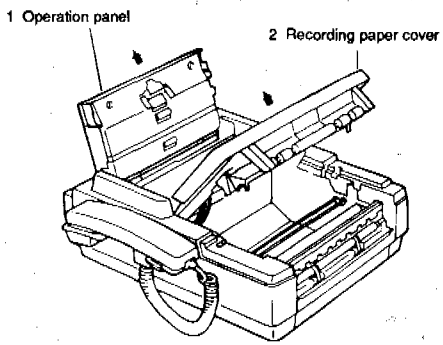


Fig. 4-4-38

3. Remove 2 screws to take off the TPH stopper.

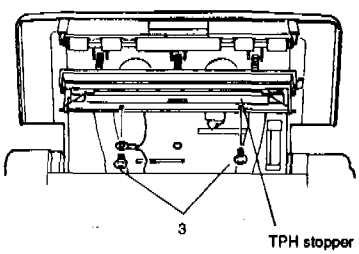


Fig. 4-4-39

4. Remove the parallel pin.
5. Remove the TPH unit from the body, and disconnect the cables 1 and 2.

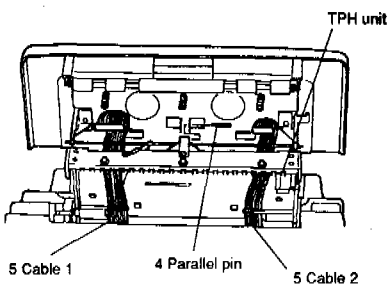


Fig. 4-4-40

5 ERROR CODE

The error code chart given here is not restricted exclusively to this unit, but can be used for other Canon facsimiles as well. Hence error codes not relevant to this machine are present.

5.1 Error code for user

Code	Cause	Remedy	Location TX	Location RX
#001	Document jam in the ADF unit.	Insert document once again. Use a document cover if the sheet is not standard size.	○	
#003	Max. time allowed to transmit or copy one page was exceeded.	Make a photocopy and divide it up before transmitting or copying. Or reset the one page timeout with the service soft switch.	○	
#005	Receiving machine is not G3/G2, or did not respond within 45 seconds. (This error will occur if the receiver is in manual reception mode and set for Phase B timeout.)	Check the communication mode of the receiver. If the receiver is not G3/G2, communication is not possible.		○
#008	Polling error generated by difference in ID numbers.	Contact receiver and correlate ID numbers.	○	
#009	Paper jam during reception or copying, or paper ran out.	Check recording paper.		○
#010	Overflow of communication control memory.	Load recording paper and output info. stored in memory. Normally, when the recording paper is loaded, the activity report will automatically print, and the unit return to the standby condition.	○	○
#011	Document was not loaded at receive machine when polling was requested.	Contact receiver and have the document loaded.	○	

Code	Cause	Remedy	Location TX	Location RX
#012	No recording paper at the receiving machine during transmission.	Contact receiver and have recording paper loaded.	○	
#017	A tonal signal other than a G2, G1, or OLD-FM was received from the transmitting machine.	Check the communication mode of the transmitting unit.		○
#018	Automatic dialing executed, but no line connection because of no answer, or a busy line. (There is a timeout in the initial identification signal of the selection signal of the receiver.)	Try again.	○	
#019	Memory transmission attempted but transmission data was not stored in memory.	Store transmission data in memory.	○	
#021	During polling reception, DCN is received from the receiver even though the receiver is in polling standby. Example: Polling error because ID numbers are not correlated.	Contact receiver and correlate ID numbers.		○
#022	No telephone number registered when broadcasting or multi-polling using group dialing is attempted.	Register one-touch speed dial telephone numbers.	○	
#024	Document not present at designated time for delayed transmission.	Reload document and try again.	○	
#033	No confidential function at the receiver.	Confidential transmission is not possible.	○	

Code	Cause	Remedy	Location TX	Location RX
#034	Designated confidential mailbox does not exist in the receiver, or the mailbox cannot be used because the memory in the receiver is full.	Confirm the confidential mailbox number. Contact the other party to free up memory space.	O	
#036	Relay request was rejected at the relay station. (The telephone number of the relay station was not registered , or does not match. The relay switch is off, or the memory is full.)	Contact the relay station and reconfirm the telephone number and relay switch. Or have the memory of the relay station opened.	O	
#037	Image memory has become full.	Clear unnecessary image memory. Print confidential or temporary reception data.	O	O
#039	Transmission with a closed network failed.	Confirm that all settings related to the closed network are as given below. • The bit switch for the closed network of the transmission side is on. • The bit switch for the closed network of the reception side is on. • The closed network ID of the transmitters and receivers are correlated.	O	
#040	During broadcasting, the amount of document data for one communication was too large for the image memory.	Divide the document for transmission.	O	
#041	Broadcasting was attempted to a minifax (MF1) or G2 machine.	Broadcasting is not possible. Refer to bit3 SSSW – #1 – SW12.	O	

Code	Cause	Remedy	Location	
			TX	RX
#101	Transmission not possible because of different polarities.	Contact a serviceman to correlate polarities.	○	
#998	Temporary reception complete: This error code is displayed on the activity report to show that temporary reception has been executed.	Press STOP to return to the standby condition.		○

Code	Cause	Location	
		TX	RX
#042	"Check cutter"		○
#043	"Check cartridge"		○
#044	"Check recording paper size"		○
#045	Mistransmission alarm "Confirm number of transmission pages"	○	
#046	"Reception restricted"		○

5.2 Error code for serviceman

5.2.1 G2 Mode Error codes

Code	Cause	Location TX	Location RX
##003	MCF2 reception not executed.	○	
##004	EOM2 or PIS cannot be received, or carrier cannot be detected for more than one second. (Execute six-line check of synchronous signal. Ignored for five seconds after image reception.)		○
##006	Phase synchronization cannot be achieved (after second page).		○
##007	CFR2 cannot be received.		○
##009	The carrier break of signal termination in the tonal signal cannot be detected.	○	○
##010	Phase alignment cannot be achieved on reception over the telephone network. (First page only)		○
##011	CD signal cannot be detected within five seconds of image reception.		○
##012	After EOM reception and MCF, G12 is transmitted, a signal other than PIS or GC2 is received.		○

5.2.2 Abnormal Detection Error Codes

Code	Cause	Location TX	Location RX
##050	The thermal head temperature rose abnormally.		○
##051	The stepping motor did not operate correctly.	○	○
##052	Backup memory was lost.	○	○
##053	The motor overheated.	○	○

5.2.3 G3 Mode Error Codes

Code	Cause	Location TX	Location RX
##100	Excessive command retransmission (third time) (other than ##280 – ##290) Normal completion when the receiver does not respond after reception of EOP, and the MCF is transmitted.	○	○
##101	Receiver mode speed was not compatible.	○	
##102	Fallback impossible. FTT is received in training check, but CFR is not received despite two checks at 2400 bps.	○	
##103	EOL cannot be detected after five seconds. (In excess of one-line maximum transmission time) EOL is not detected for fifteen seconds during CBT mode.		○
##104	RTN received.	○	
##105	Burst error for more than 40 lines in horizontal scanning data.	○	○
##106	Commands cannot be received for six-second intervals during command reception (other than ##292, ##293, and ##294).		○
##107	Transmitter cannot fall back (On 2400 bps reception, RTN or FTT is sent, and DCN is received.)		○
##109	Since a binary signal other than DIS, DTC, CFR or FTT is received after DCS transmission, excessive command retransmission occurs.	○	
##111	Error occurs in the data during printing of accumulated data in image memory.		○
##114	RTN has been transmitted.		○
##115	EOL cannot be detected after five seconds. (In excess of one-line maximum transmission time)	○	
##200	Carrier is not detected for six seconds. (Non-signal status continued for more than six seconds. This is ignored for ten seconds after entering image reception.)		○
##201	DCN is received in other than normal binary procedure.	○	○
##202	CD signal is not off during binary procedure. (Noise level is high, and binary signal space cannot be detected.)	○	○

Code	Cause	Location TX	Location RX
##204	DTC received even though there is no transmission data in this unit.	○	
##205	A data error occurs during image data accumulation.	○	
##271	Even though 1650 Hz was received during training signal standby after CFR transmission (preamble frequency spectrum), the binary signal was not accurately received within ten seconds.		○
##280	Excessive command retransmission (three times) occurred since an appropriate signal was not received after TCF transmission.	○	
##281	Excessive command retransmission (three times) occurred since an appropriate signal was not received after EOP transmission.	○	
##282	Excessive command retransmission (three times) occurred since an appropriate signal was not received after EOM transmission.	○	
##283	Excessive command retransmission (three times) occurred since an appropriate signal was not received after MPS transmission.	○	
##284	DCN received after transmission of TCF.	○	
##285	DCN received after transmission of EOP.	○	
##286	DCN received after transmission of EOM.	○	
##287	DCN received after transmission of MPS.	○	
##288	Signals other than those expected were received after EOP transmission.	○	
##289	Signals other than those expected were received after EOM transmission.	○	
##290	Signals other than those expected were received after MPS transmission.	○	
##291	After receiving the first DTC signal, and waiting for the second, or subsequent DTC signals, signals other than those expected were received.	○	
##292	The EOL at the beginning of the image signal could not be received for five seconds after CFR transmission (retraining error).		○
##293	The carrier at the beginning of the image signal could not be detected for six seconds after CFR transmission.		○

Code	Cause	Location TX	Location RX
##294	The command could not be received for six seconds after RTN or PIN transmission.		○

5.2.4 System Error Codes

Code	Cause	Location TX	Location RX
##260	CS does not become "0" when RS is set to "0". (System error between MODEM and SCNT)	○	
##261	CS does not become "1" when RS is set to "1". (System error between MODEM and SCNT)	○	
##263	Appropriate signal reception was not possible within twenty seconds of preamble detection. Or the preamble was received for more than twenty seconds.	○	○
##264	The image signal was not accurately received within ten seconds after entering image reception. (Retraining error/modem misoperation)		○
##265	Abnormal data rate setting of the high-speed modem in firmware.	○	○
##266	Byte pack interruption was not executed. (Disorder in the SCNT/modem)	○	○
##267	EEPROM malfunction.	○	○

5.2.5 MF1 Mode (Japanease mode) Error Codes

Code	Cause	Location TX	Location RX
##603	MCF was not received in MF1 transmission.	○	
##604	EOM was not received in MF1 reception.		○
##606	Phase synchronization was not received in MF1 reception.		○
##607	CFR was not received in MF1 transmission.	○	
##610	PIS was not received in MF1 transmission. There was a disorder with the STOC (expanded dialing side). (This occurs when a document that is longer than 630 mm in fine mode or 420 mm in standard mode is transmitted with expanded dialing).	○	
##611	A CD break was detected for more than one second during image reception in MF1 reception.		○
##612	The image signal was not detected within five seconds after CFR transmission in MF1 reception.		○

5.2.6 CHT Mode Error Codes

Code	Cause	Location TX	Location RX
##710	Excessive RR transmission occurred since response reception was not possible after image transmission.	○	
##711	REJ was received after image transmission.	○	
##712	RR was received after image transmission.	○	
##713	Something other than RR, RNR or REJ was received after image transmission.	○	
##714	Timeout occurred since REJ was not received during retransmission.	○	
##715	Something other than RR, RNR or REJ was received during retransmission.	○	
##716	Fallback was impossible in the receiver.	○	
##717	Buffer memory overflowed in the receiver.	○	
##718	A decoding error occurred in the receiver.	○	
##719	The block number was not synchronized in the receiver.	○	
##730	Timeout occurred since Q reception for RR did not take place after image reception.		○
##731	REJ was received after image reception.		○
##732	RNR was received after image reception.		○
##733	Not used.	○	
##734	Excessive NACK transmission occurred since ACK was not received during retransmission.		○
##735	Excessive REJ transmission occurred during retransmission.		○
##736	Timeout occurred since valid data was not received after NODE-FH and ESD reception.		○
##737	Image decoding error		○
##738	Block number was not synchronized.		○
##739	Buffer memory overflow.		○
##740	Fallback impossible.		○

5.2.7 ECM Mode Error Codes

Code	Cause	Location TX	Location RX
##750	After PPS-NULL transmission, appropriate signals cannot be received and there is excessive command retransmission.	○	

Code	Cause	Location TX	Location RX
##751	Signals other than the expected signal were received after PPS-NULL transmission.	○	
##752	DCN received after PPS-NULL transmission	○	
##753	RNR received after PPS-NULL transmission. Then, after RR transmission, appropriate signals cannot be received and there is excessive command retransmission or T5 time (sixty seconds).	○	
##754	PPR is received n times after PPS-NULL transmission. Then after CTC transmission, appropriate signals cannot be received and there is excessive command retransmission.	○	
##755	After PPS-MPS transmission, appropriate signals cannot be received and there is excessive command retransmission.	○	
##756	Signals other than the expected signal were received after PPS-MPS transmission.	○	
##758	RNR received after PPS-MPS transmission. Then after RR transmission, appropriate signals cannot be received and there is excessive command retransmission or T5 time (sixty seconds).	○	
##759	PPR is received n times after PPS-MPS transmission. Then, after CTC transmission, appropriate signals cannot be received and there is excessive command retransmission.	○	
##760	After PPS-EOM transmission, appropriate signals cannot be received and there is excessive command retransmission.	○	
##761	Signals other than the expected signal were received after PPS-EOM transmission.	○	
##762	DCN received after PPS-EOM transmission.	○	
##763	RNR received after PPS-EOM transmission. Then, after RR transmission, appropriate signals cannot be received and there is excessive command retransmission or T5 time (sixty seconds).	○	
##764	PPR is received n times after PPS-EOM transmission. Then, after CTC transmission, appropriate signals cannot be received and there is excessive command retransmission.	○	

Code	Cause	Location TX	Location RX
##765	After PPS-EOP transmission, appropriate signals cannot be received and there is excessive command retransmission.	○	
##766	Signals other than the expected signal were received after PPS-EOP transmission.	○	
##767	DCN received after PPS-EOP transmission.	○	
##768	RNR received after PPS-EOP transmission. Then, after CTC transmission, appropriate signals cannot be received and there is excessive command retransmission or T5 time (sixty seconds).	○	
##769	PPR is received n times after PPS-EOP transmission. Then, after CTC transmission, appropriate signals cannot be received and there is excessive command retransmission.	○	
##770	After EOR-NULL transmission, appropriate signals cannot be received and there is excessive command retransmission.	○	
##771	Signals other than the expected signal were received after EOR-NULL transmission.	○	
##772	DCN received after EOR-NULL transmission.	○	
##773	RNR received after EOR-NULL transmission. Then, after RR transmission, appropriate signals cannot be received and there is excessive command retransmission or T5 time (sixty seconds).	○	
##774	Transmission is not continued after ERR reception after EOR-NULL transmission.	○	
##775	After EOR-MPS transmission, appropriate signals cannot be received and there is excessive command retransmission.	○	
##776	Signals other than the expected signal were received after EOR-MPS transmission.	○	
##777	DCN received after EOR-MPS transmission.	○	
##778	RNR received after EOR-MPS transmission. Then, after RR transmission, appropriate signals cannot be received and there is excessive command retransmission or T5 time (sixty seconds).	○	

Code	Cause	Location TX	RX
##779	Transmission is not continued after ERR reception after EOR-MSP transmission.	○	
##780	After EOR-EOM transmission, appropriate signals cannot be received and there is excessive command retransmission.	○	
##781	Signals other than the expected signal were received after EOR-EOM transmission.	○	
##782	DCN received after EOR-EOM transmission.	○	
##783	RNR received after EOR-EOM transmission. Then, after RR transmission, appropriate signals cannot be received and there is excessive command retransmission or T5 time (sixty seconds).	○	
##784	Transmission is not continued after ERR reception after EOR-EOM transmission.	○	
##785	After EOR-EOP transmission, appropriate signals cannot be received and there is excessive command retransmission.	○	
##786	Signals other than the expected signal were received after EOR-EOP transmission.	○	
##787	DCN received after EOR-EOP transmission.	○	
##788	RNR received after EOR-EOP transmission. Then, after RR transmission, appropriate signals cannot be received and there is excessive command retransmission or T5 time (sixty seconds).	○	
##789	ERR received after EOR-EOP.	○	
##790	ERR received after EOR-Q.	○	
##791	Signals other than the appropriate signals were received during ECM mode procedures.	○	○
##792	An appropriate signal was not detected in the scheduled time during partial page processing in ECM mode reception.		○
##793	An effective frame was not detected in the designated time during ECM mode high-speed signal reception.		○
##794	On retransmission, there is no data to be retransmitted (all "0" for PPR was received).	○	

1 PERIODIC INSPECTION

1.1 Cleaning Items

1.1.1 Glass plate cleaning

Lift up the operation panel and clean the glass plate.
Glass plate should be wiped with methanol.

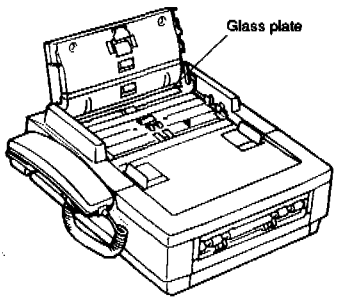


Fig. 5-1-1 Glass plate cleaning

1.1.2 ADF section cleaning

Clean each roller of the ADF section with isopropanol.
Dirty rollers on the ADF section can cause defective feeding.

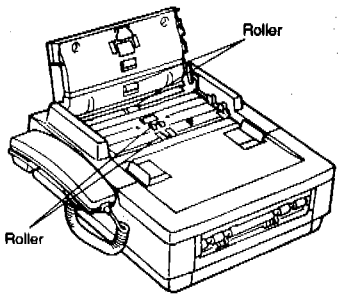


Fig. 5-1-2 ADF section cleaning

1.1.3 Mirror cleaning (Scanning unit)

How to remove scanning unit:
See P. 4-27.

a. Gently apply air blow with a blower brush to remove dust from the mirror.
b. Rub the mirror surface lightly once with lint-free paper (CK-0336) soaked in isopropanol solution if dust still persists.
   Do not rub the mirror too much, otherwise this may damage the mirror.

Note: Be sure to clean the mirrors periodically as dirty mirrors may cause a faulty image (dark vertical lines, irregular image.)

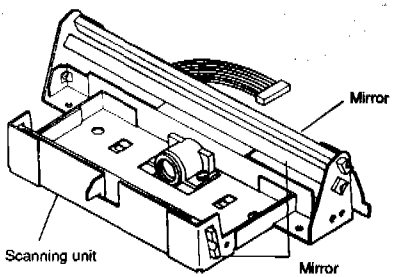


Fig. 5-1-3 Mirror cleaning

1.1.4 Cutter cleaning

a. Remove paper chips, or other dirt around cutter.
b. Clean dirt, adhering to the cutter teeth.

Note:
- The recording paper may jam if chips of paper or dirt are stuck around the cutter.
- When paper cannot be fed because the cutter stopped half-closed, set the power supply switch to OFF and ON and reset the cutter position.

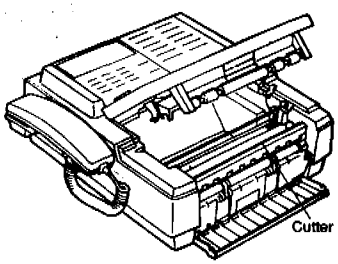


Fig. 5-1-4 Cutter cleaning

2 PARTS SUPPLY

2.1 Parts Supply List

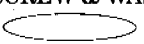
Part	Parts life and replacement criteria
Fluorescent lamp WG1-0504-000	500 hours or more
Thermal head HG1-3350-000	30 km running distance
Cutter HG9-0367-000	100,000 times or more
Battery HH7-1457-000	5 years with power supply off
Separation guide HA1-5329-000	Replace if the ADF performance is reduced and is not improved by cleaning.
Separation roller HA1-5279-000	
Sub-separation roller HF1-0755-000	

How to use the Parts Catalog

1. Parts Catalog

The parts catalog is made up of illustrations of the parts, and the Parts Number List.

1.1 Illustration numbers and symbols.

The number given in the illustration is the Key No.. Where this consists of figures only, you should refer to the Parts Number List. Where the Key No. is made up of figures and letters, it indicates screws, washers and/or cables, and you should refer to the SCREW & WASHER LIST, or CABLE & ROM. Numbers inside an oval  , are the figure numbers (Fig No.), of the component parts of the unit, and you should refer to the relevant illustration.

1.2 Parts Number List

(1) Fig No. and Key No.

a) Fig No.

Fig No. allocation is as follows,

Illustration	Fig. No. (*1)
Assembly Location Diagram	100, 200, ... , 900
OOUNIT (component unit of XOO)	X10, X20, ... , X90
OOUNIT (component unit of XXO)	XX1, XX2, ... , XX9

X =arbitrary value 1~9

b) Key No.

The Key No. matches the illustrations with the Parts Number List. However, where two or more parts share the same Key No., specifications with regard to colour, voltage, etc, so you should refer to the Remarks section.

(2) Part Number

The last three digits of the Part Number are the Revision Number. When parts are improved or otherwise modified, the Revision Number is changed. Please refer to S/I for details of changes. NPN indicates that there is no part number assigned.

(3) Rank

Parts marked N are set service parts, but are not kept in stock, and are produced on an order basis.

(4) Quantity

This figure refers to the number of parts used. However, there are exceptions, as outlined below.

Mark	CONTENT
RF	Part without a part number, but listed for reference purposes.
AR	Quantity not restricted. Parts used as necessary in assembly. Also, parts whose quantity cannot be listed. Screws, washers, etc, whose number is not restricted. Washers used for adjustments, etc.

(5) Remarks

Parts marked A~T indicate that the parts is to be used .with the relevant model only. A blank column indicates that the part is common to all models.

Product No.	Name	Area	Voltage	Color	Mark
H11-2325-210	FAX-280	GERM	230V	AG	A
H11-2329-210	FAX-280	AE	230V	AG	B
H11-2328-210	FAX-280	AUS	230V	AG	C
H11-2322-210	FAX-T400	USA	120V	AG	D

2. CABLE & ROM

This is the parts catalogue for cables and ROMs.

3. SCREW & WASHER LIST.

This list shows screws and washers. However, some screws and washers not used in this machine are included.

4. NUMERICAL INDEX

All parts listed in the Parts Number List are arranged by number, and from the Part Number the Fig No. and Key No. can be found. Part numbers listed in the SCREW & WASHER LIST are not included.

100. EXTERNAL COVERS, ETC

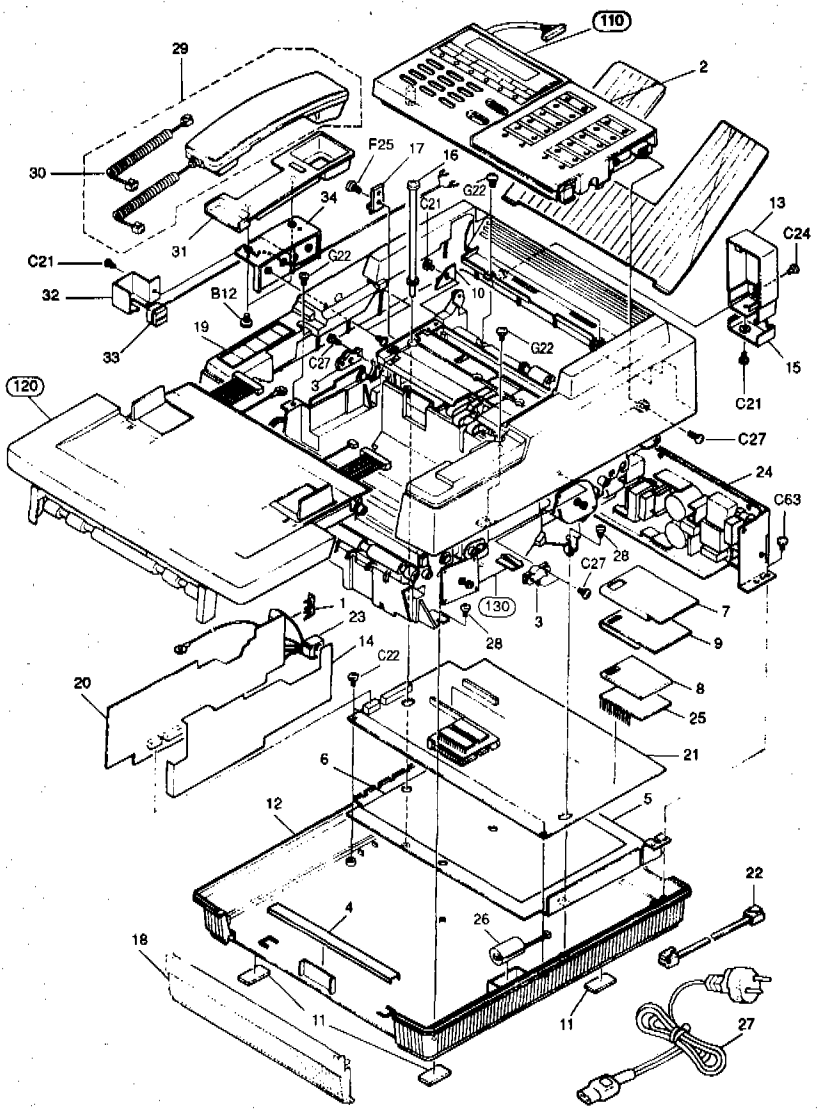


FIGURE & KEY NO.	PART NO.	RANK	Q'TY	DESCRIPTION	REMARKS
100	NPN		RF	EXTERNAL COVERS,ETC	
1	HA1-0649-000		1	BAR, CONNECTION	
2	HA1-2709-000		1	STACKER	
3	HA1-5254-000		2	HINGI PLATE	
4	HA1-5298-000		1	CHASSIS STAY	
5	HA1-5361-000		1	SHIELD PLATE1, SCNT	
6	HA1-5366-000		1	SHIELD PLATE2, SCNT	
7	HA1-5380-000		1	HEAT SINK, MODEM CARD	
8	HA1-5381-000		1	CUSHION, MODEM CARD	
9	HA1-5382-000		1	SHIELD, MODEM CARD	
10	HA1-6536-000		1	CARD SUPPORTER	
11	HA2-0212-000		4	PAD, RUBBER	
12	HA2-1103-000		1	BASE COVER	.B C D
12	HA2-1114-000		1	BASE COVER	A
13	HA2-1106-000		1	TERMINAL COVER	
14	HA2-1108-000		1	INSULATED SHEET, NCU	
15	HA2-1110-000		1	SUB-TERMINAL COVER	
16	HA2-1126-000		1	SCREW	
17	HA2-1140-000		1	HOLDER,NCU CARD	
18	HF1-1005-000		1	HOLDER, RECORDING PAPER	
19	HF1-1008-000		1	UPPER COVER UNIT	.B
19	HF1-1010-000		1	UPPER COVER UNIT	A
19	HF1-1034-000		1	UPPER COVER UNIT	...D
19	HF1-1035-000		1	UPPER COVER UNIT	..C
20	HG1-1882-000		1	NCU CARD UNIT	...D
20	HG1-1883-000		1	NCU CARD UNIT (EC)	.B
20	HG1-2128-000		1	NCU CARD UNIT	A
20	HG1-3068-000		1	NCU CARD UNIT	..C
21	HG1-2694-000		1	SCNT CARD UNIT	...D
21	HG1-2695-000		1	SCNT CARD UNIT	.BC
21	HG1-2696-000		1	SCNT CARD UNIT	A
22	HH2-1260-000		1	MODULAR CORD	.B.D
22	HH2-2074-000		1	MODULAR CORD (GERM)	A.C
23	HH2-1693-000		1	MODULAR JACK	A
23	HH2-1712-000		1	MODULAR JACK	..C
23	HH2-2145-000		1	MODULAR JACK	.B
24	HH3-5217-000		1	POWER SUPPLY UNIT	...D
24	HH3-5219-000		1	POWER SUPPLY UNIT	A.C
24	HH3-5224-000		1	POWER SUPPLY UNIT	.B
25	HH7-1341-000		1	MODEM CARD UNIT	
26	HH7-1457-000		1	BATTERY UNIT, LITHIUM	
27	WT3-9095-000		1	CORD, POWER SUPPLY	
28	HA9-0121-000		3	SCREW,M3X10	
29	HG1-2185-000		1	HANDSET UNIT (USA,AG)	...D
29	HG1-2657-000		1	HANDSET UNIT	..C

FIGURE & KEY NO.	PART NO.	RANK	QTY	DESCRIPTION	REMARKS
100 30	HH2-1703-000		1	CORD, COILED (A.G)	. . D . . . . .
31	HA1-6560-000		1	REST, HANDSET (W)	. . C D . . . . .
32	HA2-1111-000		1	MODULAR COVER	. . . C . . . . .
33	HH2-1556-000		1	MODULAR CONNECTOR	. . . D . . . . .
33	HH2-1695-000		1	MODULAR CONNECTOR	. . C . . . . .
34	HA2-1109-000		1	BLACKET, HANDSET REST	. . C D . . . . .

110. OPERATION PANEL UNIT

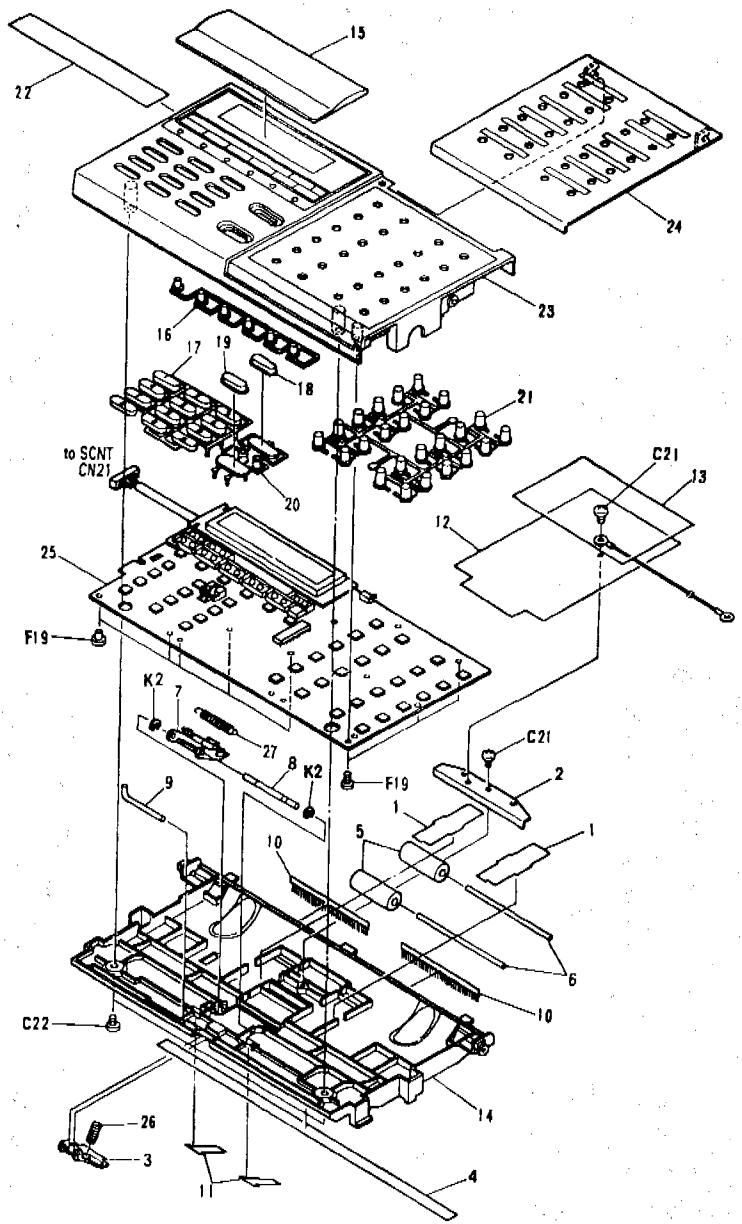


FIGURE & KEY NO.	PART NO.	RANK	QTY	DESCRIPTION	REMARKS
110	HG1-3347-000		1	OPERATION PANEL	...D.....
	HG1-3351-000		1	OPERATION PANEL	.BC.....
	HG1-3352-000		1	OPERATION PANEL	A.....
1	HA1-5323-000		2	SPRING, BACK UP ROLLER	
2	HA1-5324-000		1	STAY, BACK UP SPRING	
3	HA1-5325-000		1	SUB SEPARATION GUIDE	
4	HA1-5326-000		1	WHITE SHEET	
5	HA1-5327-000		2	ROLLER, BACK-UP	
6	HA1-5328-000		2	SHAFT, BACK UP ROLLER	
7	HA1-5329-000		1	SEPARATION GUIDE	
8	HA1-5330-000		1	SHAFT, SEPARATION GUIDE	
9	HA1-5331-000		1	SHAFT, SUB SEPARATION GUIDE	
10	HA1-5332-000		2	ELIMINATOR, STATIC CHARGE DOC	
11	HA1-5333-000		2	POLYESTER SHEET	
12	HA1-5334-000		1	SHIELD PLATE, OP. CNT CARD	
13	HA1-5350-000		1	SHIELD PLATE3, OP. CNT CARD	
14	HA2-1154-000		1	DOCUMENT GUIDE, UPPER	
15	HA2-1163-000		1	LCD COVER	
16	HA2-1164-000		1	KEY TOP (FUNCTION KEY)	
17	HA2-1165-000		1	KEY TOP (TEN KEY)	
18	HA2-1166-000		1	START KEY	
19	HA2-1167-000		1	STOP KEY	
20	HA2-1168-000		1	START/STOP KEY	
21	HA2-1169-000		1	KEY TOP (ONE-TOUCH KEY)	
22	HA2-1170-000		1	FUNCTION SHEET (ENGLISH)	.BCD.....
22	HA2-1173-000		1	FUNCTION SHEET (GERMAN)	A.....
23	HA2-1161-000		1	COVER, OPERATION PANEL	...D.....
23	HA2-1171-000		1	COVER, OPERATION PANEL (AE)	.BC.....
23	HA2-1172-000		1	COVER, OPERATION PANEL (GER)	A.....
24	HA2-1174-000		1	COVER, ONE-TOUCH KEY	...D.....
24	HA2-1175-000		1	COVER, ONE-TOUCH KEY	ABC.....
25	HG1-1865-000		1	OP. CNT CARD UNIT	.BC.....
25	HG1-2209-000		1	OPCNT CARD UNIT	A.....
26	HS1-2188-000		1	SPRING	
27	HS1-2189-000		1	SPRING	

120. R.P. COVER UNIT

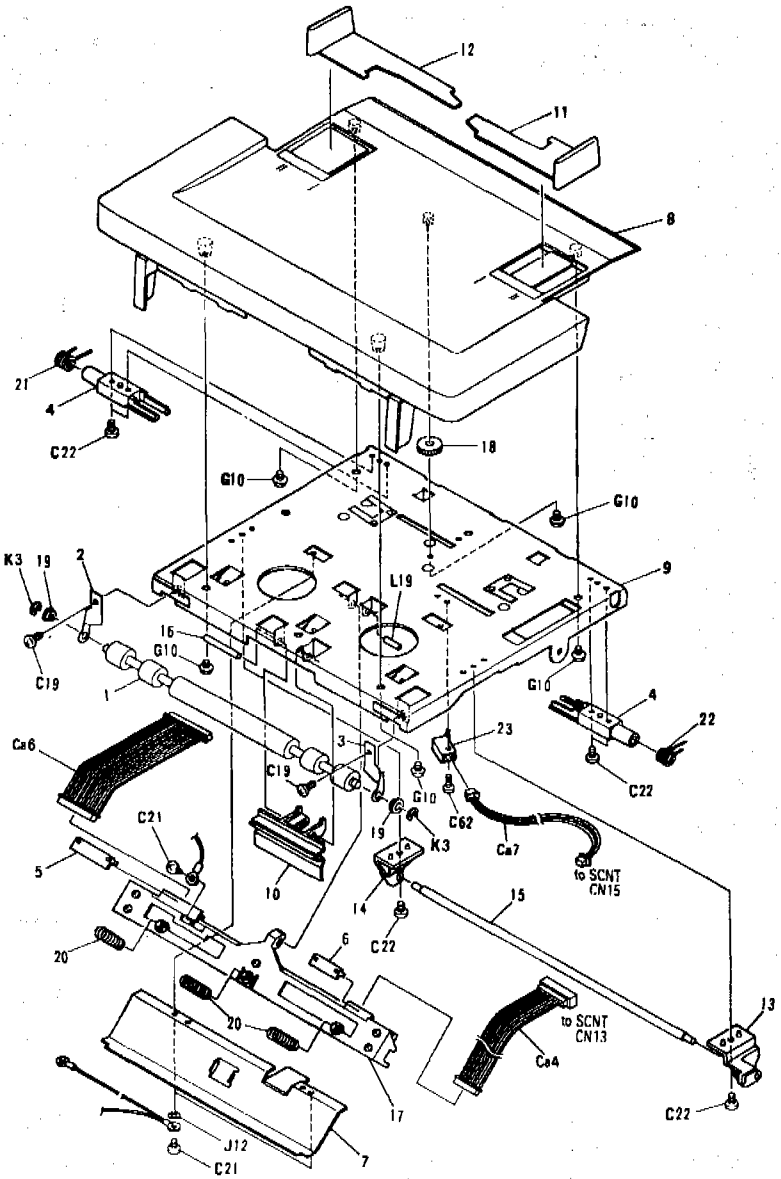


FIGURE & KEY NO.	PART NO.	RANK	Q'TY	DESCRIPTION	REMARKS
120	NPN		RF	R.P. COVER UNIT	
1	HA1-5341-000		1	PAPER FEED ROLLER	
2	HA1-5342-000		1	SPRING, COVER (LEFT)	
3	HA1-5343-000		1	SPRING, COVER (RIGHT)	
4	HA1-5344-000		2	SHAFT, HINGE	
5	HA1-5981-000		1	CONNECTOR STOPPER (32MM)	
6	HA1-5982-000		1	CONNECTOR STOPPER (22MM)	
7	HA2-1179-000		1	COVER, TPH UNIT	
8	HA2-1181-000		1	COVER, REC. PAPER	
9	HA2-1182-000		1	RECORDING PLATE	
10	HA2-1183-000		1	LOCK LEVER	
11	HA2-1184-000		1	SLIDER (RIGHT)	
12	HA2-1185-000		1	SLIDER (LEFT)	
13	HA2-1186-000		1	STAY (RIGHT), DECURL SHAFT	
14	HA2-1187-000		1	SYAY (LEFT), DECURL SHAFT	
15	HA2-1188-000		1	DECURL SHAFT	
16	HA2-1189-000		1	SHAFT, LOCK LEVER	
17	HG1-3350-000		1	TPH UNIT	
18	HS1-0173-000		1	GEAR	
19	HS1-1030-000		2	BUSHING, 4MM	
20	HS1-2190-000		3	SPRING, T.P.H.UNIT	
21	HS1-2191-000		1	SPRING, CLUTCH	
22	HS1-2192-000		1	SPRING, CLUTCH	
23	WC4-0229-000		1	DWS UNIT	

130. MACHINE INTERNAL COMPONENTS 1

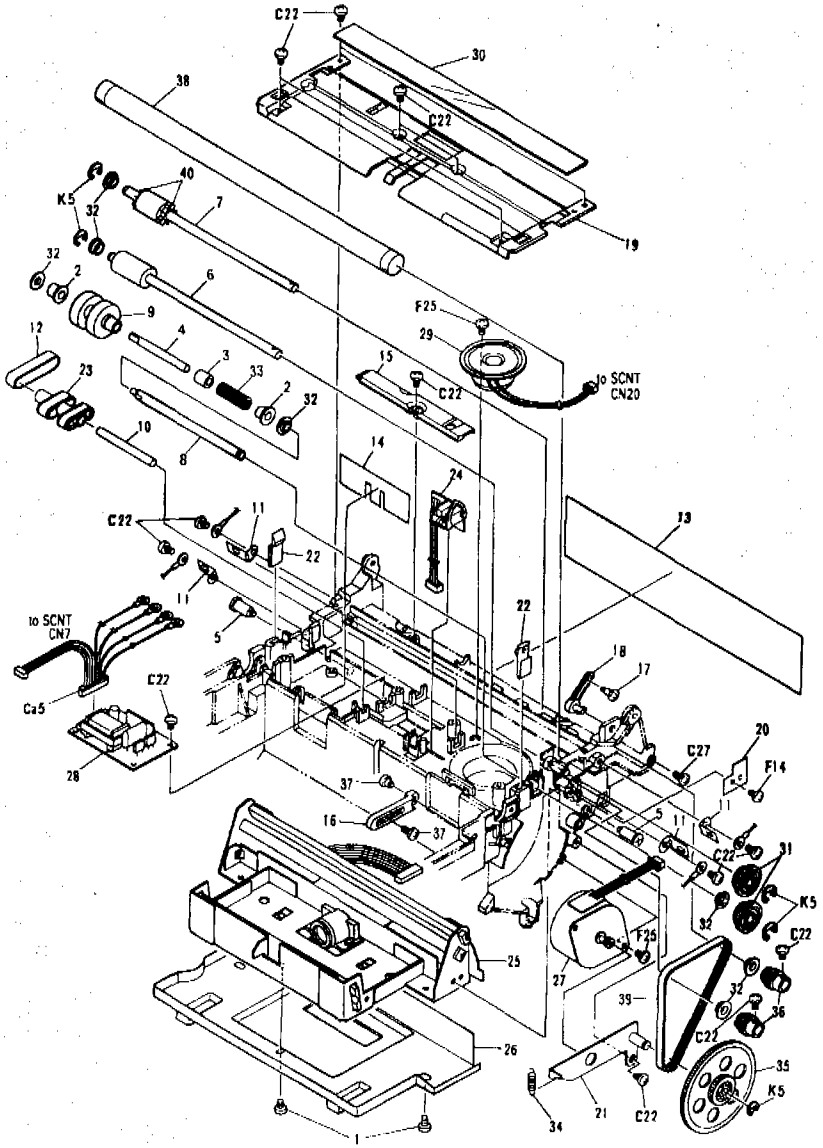


FIGURE & KEY NO.	PART NO.	RANK	Q'TY	DESCRIPTION	REMARKS
130	NPN		RF	MACHINE INTERNAL COMPONENT1	
1	FS1-9009-000		1	TWO-STEP SCREW, M3	
2	HA1-3078-000		2	ROLLER	
3	HA1-3079-000		1	ROLLER	
4	HA1-3083-000		1	SHAFT, SEPARATION ROLLER	
5	HA1-3560-000		2	SCREW	
6	HA1-5274-000		1	FEED ROLLER, DOCUMENT	
7	HA1-5275-000		1	DELIVERY ROLLER, DOCUMENT	
8	HA1-5278-000		1	SHAFT, ADF ROLLER	
9	HA1-5279-000		1	ROLLER, SEPARATION	
10	HA1-5286-000		1	SHAFT, SEPARATION SUB-ROLLER	
11	HA1-5290-000		4	CONTACT, FLUORESCENT LAMP	
12	HA1-5296-000		1	BELT, FLAT (CR) TRANSMISSION	
13	HA1-5363-000		1	INSULATED SHEET, CCD	
14	HA1-5348-000		1	POLYESTER SHEET	
15	HA1-6412-000		1	COVER STAMP UNIT	
16	HA1-6823-000		1	STAY, R.P. COVER UNIT	
17	HA1-8119-000		1	SCREW, M3	
18	HA2-1107-000		1	STAY, OPERATION PANEL	
19	HA2-1128-000		1	DOCUMENT GUIDE, LOWER	
20	HA2-1133-000		1	SUPPORTER	
21	HF1-0455-000		1	BRACKET, READ MOTER	
22	HF1-0458-000		2	LOCK SPRING	
23	HF1-0755-000		1	SUB ROLLER, SEPARATION	
24	HG1-1861-000		1	DOCUMENT SENSOR UNIT	
25	HG1-1862-000		1	SCANNING UNIT	
26	HG9-0284-000		1	COVER, SCANNING UNIT	
27	HH7-1441-000		1	STEPPING MOTOR (READ)	
28	HH7-1454-000		1	INVERTER	
29	HH7-1458-000		1	SPEAKER	
30	HN1-4039-000		1	DOCUMENT GLASS	
31	HS1-0172-000		2	GEAR, 19-27T	
32	HS1-1017-000		6	BUSHING, 6MM	
33	HS1-2062-000		1	SPRING, CLUTCH	
34	HS1-2186-000		1	SPRING	
35	HS1-3057-000		1	PULLEY, 25T-139T-M17	
36	HS1-3058-000		2	PULLEY, 15T-M17	
37	HS1-9007-000		1	SCREW	
38	WG1-0504-000		1	FLUORESCENT LAMP	
39	XF9-0284-000		1	COGGED BELT M95T	
40	HA1-5365-000		2	SUB ROLLER, EJECT	

131. MACHINE INTERNAL COMPONENTS 2

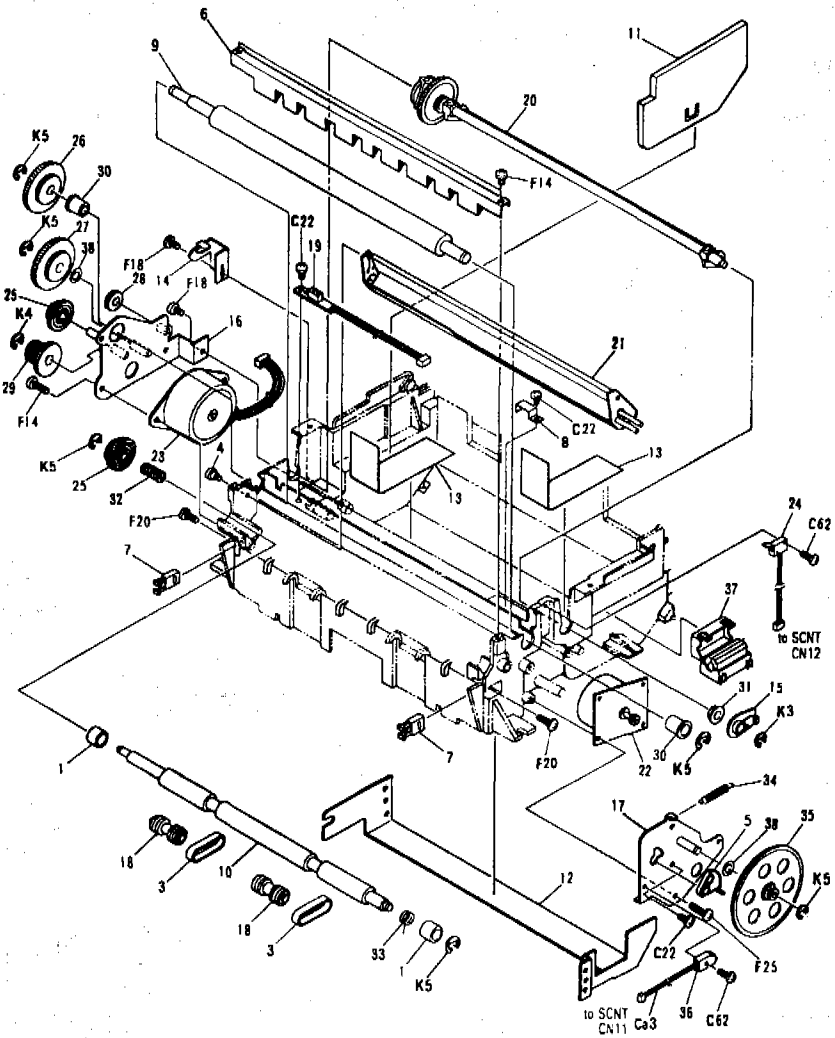


FIGURE & KEY NO.	PART NO.	RANK	Q'TY	DESCRIPTION	REMARKS
131	NPN		RF	MACHINE INTERNAL COMPONENT2	
1	HA1-2030-000		2	BUSHING	
3	HA1-3026-000		2	BELT, FLAT (CR) TRANSMISSION	
4	HA1-3697-000		1	SCREW	
5	HA1-5283-000		1	CUTTER GEAR	
6	HA1-5293-000		1	LOCK STAY	
7	HA1-5294-000		1	CATCHER	
8	HA1-5310-000		1	RPS COVER	
9	HA2-1129-000		1	PLATEN ROLLER	
10	HA2-1130-000		1	DELIVERY ROLLER (1)	
11	HA2-1131-000		1	CATCHER REC. PAPER	
12	HA2-1132-000		1	LOWER PLATE, CHASSIS	
13	HA2-1136-000		1	SHEET, RECORDING PAPER	
14	HA2-1137-000		1	STOPPER, SPRING	
15	HA2-1139-000		1	LEVER, DECURL UNIT	
16	HF1-1006-000		1	BRACKET, REC. MOTOR	
17	HF1-1007-000		1	BRACKET, CUTTING MOTOR	
18	HF1-1036-000		2	DELIVERY ROLLER	
19	HG1-1874-000		1	RECORDING PAPER SENSOR UNIT	
20	HG1-3346-000		1	DECURL UNIT	
21	HG9-0367-000		1	CUTTER UNIT	
22	HH7-1443-000		1	STEPPING MOTOR (CUTTER)	
23	HH7-1938-000		1	STEPPING MOTOR	
24	HH7-1755-000		1	MICRO SWITCH	
25	HS1-0172-000		2	GEAR, 19-27T	
26	HS1-0290-000		1	GEAR, 25-79T	
27	HS1-0291-000		1	GEAR, 43-73T	
28	HS1-0292-000		1	GEAR, 29T	
29	HS1-0294-000		1	GEAR, 27-47T	
30	HS1-1048-000		2	BUSHING	
31	HS1-1065-000		1	BUSHING	
32	HS1-2187-000		1	SPRING	
33	HS1-2216-000		1	SPRING	
34	HS1-2280-000		1	SPRING	
35	HS1-3057-000		1	PULLEY, 25T-139T-M17	
36	WC4-0228-000		1	MICRO SWITCH	
37	WE8-0100-000		1	FERRITE	
38	HA1-6939-000		1	WASHER	

140. OTHERS

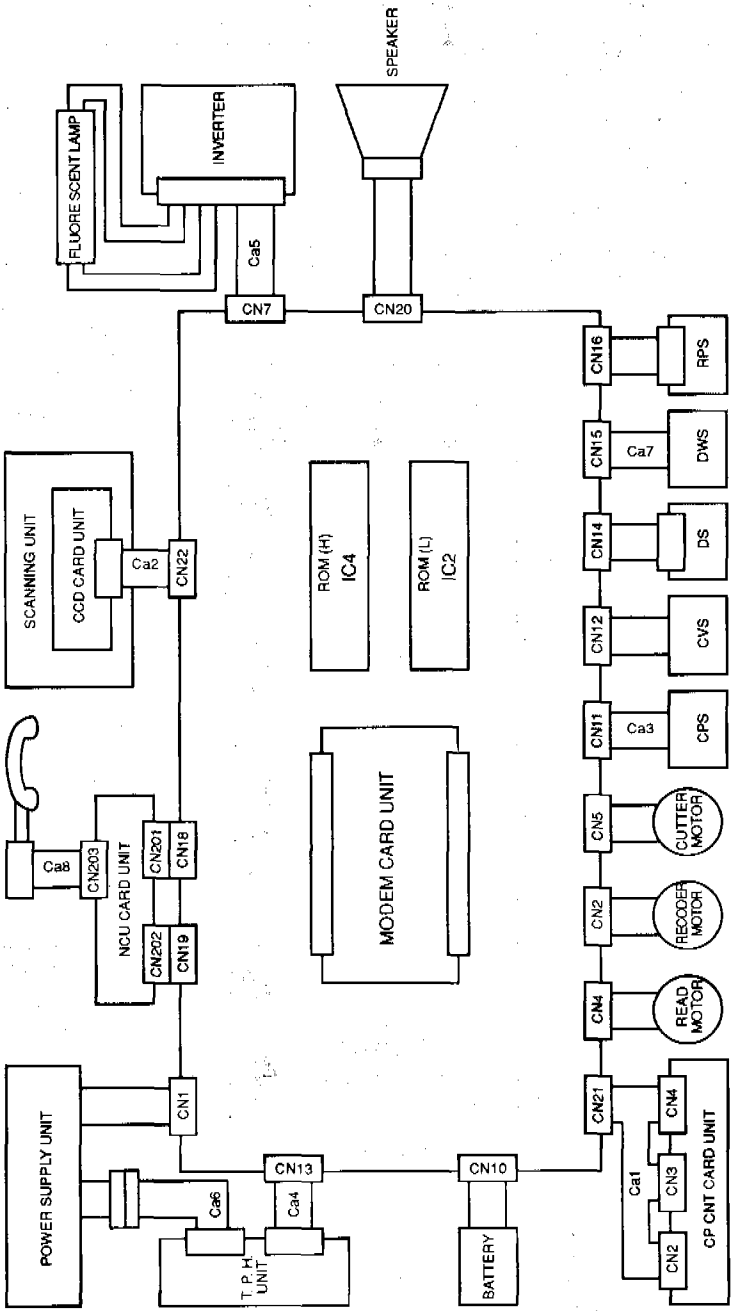

SPEAKER
INVERTER
FLUORESCENT LAMP
Ca5
CN7
CN20
CN16
RPS
CN15
Ca7
DWS
CN14
DS
CN12
CVS
CN11
Ca3
CPS
CN5
CUTTER MOTOR
CN2
RECODER MOTOR
CN4
READ MOTOR
CN21
CN4
CN3
CN2
Ca1
CP CNT CARD UNIT
SCANNING UNIT
CCD CARD UNIT
Ca2
CN22
ROM (H) IC4
ROM (L) IC2
MODEM CARD UNIT
Ca8
CN203
NCU CARD UNIT
CN201
CN18
CN202
CN19
POWER SUPPLY UNIT
CN1
CN13
CN10
Ca6
Ca4
T.P.H. UNIT
BATTERY

FIGURE & KEY NO.	PART NO.	RANK	Q'TY	DESCRIPTION	REMARKS
140 .00	NPN		RF	OTHER(WIRING etc.)	
Ca1	HH2-1541-000		1	CONNECTER WITH WIRE, 25P	
Ca2	HH2-1543-000		1	CONNECTER WITH WIRE, 8P	
Ca3	HH2-1546-000		1	CONNECTER WITH WIRE, 2P	
Ca4	HH2-1550-000		1	CONNECTER WITH WIRE,15P	
Ca5	HH2-1551-000		1	CONNECTER WITH WIRE, 9P	
Ca6	HH2-2089-000		1	CONNECTER WITH WIRE, 12P	
IC2	HH4-1944-000		1	MASK ROM uPD23C1001EC-515(L)	. . . D . . . . .
IC2	HH4-1948-000		1	MASK ROM uPD23C1001-526(L)	. B C . . . . .
IC2	HH4-1952-000		1	MASK ROM uPD23C1001EC-551	A . . . . .
IC4	HH4-1943-000		1	MASK ROM uPD23C1001EC-514(H)	. . . D . . . . .
IC4	HH4-1947-000		1	MASK ROM uPD23C1001-525(H)	. B C . . . . .
IC4	HH4-1951-000		1	MASK ROM uPD23C1001EC-550	A . . . . .

SCREWS & WASHERS

FIGURE & KEY NO.	PART NO.	RANK	Q'TY	DESCRIPTION	REMARKS
999	NPN		RF	SCREW & WASHERS LIST	
A 1	XA1-1170-409		AR	SCREW, PH1.7X4	
A 2	XA1-1170-605		AR	SCREW, PH1.7X6	
A 3	XA1-1261-207		AR	SCREW, PH2.6X12	
A 4	XA1-6200-257		AR	SCREW, PH2X2.5	
B 1	XA9-0194-000		AR	SCREW WITH WASHER, PH3X6	
B 2	XA9-0233-000		AR	SCREW, M3X6	
B 3	XA9-0259-000		AR	SCREW, TRUSS HEAD M3X8	
B 4	XA9-0277-000		AR	SCREW WITH WASHER, PH3X6	
B 5	XA9-0283-000		AR	SCREW, TP, PH3X6	
B 6	XA9-0289-000		AR	SCREW, BH3X7.2	
B 7	XA9-0290-000		AR	SCREW, BH3X13	
B 8	XA9-0329-000		AR	SCREW WITH WASHER, PH3X10	
B 9	XA9-0340-000		AR	SCREW, BH2.3X8	
B10	XA9-0342-000		AR	SCREW, BH3X7.5	
B11	XA9-0390-000		AR	SCREW, FTH3X4	
B12	XA9-0429-000		AR	SCREW	
B13	XA9-0459-000		AR	SCREW, TRUSS HEAD M3X16	
B14	XA9-0462-000		AR	SCREW, TRUSS HEAD M3X10	
B15	XA9-0530-000		AR	SCREW, M3X5	
B16	XA9-0476-000		AR	SCREW, TP, M3X8	
B17	XA9-0384-000		AR	SCREW, M3	
B18	XA9-0385-000		AR	SCREW WITH WASHER, M3X6	
B19	XA9-0397-000		AR	SCREW, TP, M3X6	
B20	XA9-0531-000		AR	SCREW WITH WASHER, M3X16	
B21	XA9-0563-000		AR	SCREW, TP, M3X3	
B22	XA9-0375-000		AR	SCREW WITH WASHER, PH3X25	
C 1	XB1-1200-807		AR	SCREW, PH2X8	
C 2	XB1-1230-809		AR	SCREW, PH2.3X8	
C 3	XB1-1231-009		AR	SCREW, PH2.3X10	
C 4	XB1-1260-809		AR	SCREW, PH2.6X8	
C 5	XB1-1300-605		AR	SCREW, PH3X6	
C 6	XB1-1300-805		AR	SCREW, PH3X8	
C 7	XB1-2200-309		AR	SCREW, BH2X3	
C 8	XB1-2200-409		AR	SCREW, BH2X4	
C 9	XB1-2200-609		AR	SCREW, BH2X6	
C10	XB1-2200-805		AR	SCREW, BH2X8	
C11	XB1-2200-809		AR	SCREW, BH2X8	
C12	XB1-2201-009		AR	SCREW, BH2X10	
C13	XB1-2230-809		AR	SCREW, BH2.3X8	

SCREWS & WASHERS

FIGURE & KEY NO.	PART NO.	RANK	Q'TY	DESCRIPTION	REMARKS
C14	XB1-2260-407		AR	SCREW, BH2.6X4	
C15	XB1-2260-609		AR	SCREW, BH2.6X6	
C16	XB1-2300-405		AR	SCREW, BH3X4	
C17	XB1-2300-406		AR	SCREW, BH3X4	
C18	XB1-2300-407		AR	SCREW, BH3X4	
C19	XB1-2300-409		AR	SCREW, BH3X4	
C20	XB1-2300-605		AR	SCREW, BH3X6	
C21	XB1-2300-607		AR	SCREW, BH3X6	
C22	XB1-2300-609		AR	SCREW, BH3X6	
C23	XB1-2300-805		AR	SCREW, BH3X8	
C24	XB1-2300-807		AR	SCREW, BH3X8	
C25	XB1-2300-809		AR	SCREW, BH3X8	
C26	XB1-2301-007		AR	SCREW, BH3X10	
C27	XB1-2301-009		AR	SCREW, BH3X10	
C28	XB1-2301-205		AR	SCREW, BH3X12	
C29	XB1-2301-207		AR	SCREW, BH3X12	
C30	XB1-2301-209		AR	SCREW, BH3X12	
C31	XB1-2301-605		AR	SCREW, BH3X16	
C32	XB1-2301-609		AR	SCREW, BH3X16	
C33	XB1-2302-009		AR	SCREW, BH3X20	
C34	XB1-2303-005		AR	SCREW, BH3X30	
C35	XB1-2400-405		AR	SCREW, BH4X4	
C36	XB1-2400-409		AR	SCREW, BH4X4	
C37	XB1-2400-604		AR	SCREW, BH4X6	
C38	XB1-2400-605		AR	SCREW, BH4X6	
C39	XB1-2400-606		AR	SCREW, BH4X6	
C40	XB1-2400-607		AR	SCREW, BH4X6	
C41	XB1-2400-609		AR	SCREW, BH4X6	
C42	XB1-2400-805		AR	SCREW, BH4X8	
C43	XB1-2400-806		AR	SCREW, BH4X8	
C44	XB1-2401-005		AR	SCREW, BH4X10	
C45	XB1-2401-007		AR	SCREW, BH4X10	
C46	XB1-2401-009		AR	SCREW, BH4X10	
C47	XB1-2401-205		AR	SCREW, BH4X12	
C48	XB1-2403-009		AR	SCREW, BH4X30	
C49	XB1-2501-005		AR	SCREW, BH5X10	
C50	XB1-3300-409		AR	SCREW, FTH3X4	
C51	XB1-3300-606		AR	SCREW, FTH3X6	
C52	XB1-3300-607		AR	SCREW, FTH3X6	
C53	XB1-3300-609		AR	SCREW, FTH3X6	
C54	XB1-2260-607		AR	SCREW, BH2.6X6	
C55	XB1-2401-207		AR	SCREW, BH4X12	
C56	XB1-2300-606		AR	SCREW, BH3X6	
C57	XB1-2301-406		AR	SCREW, BH3X14	
C58	XB1-2302-005		AR	SCREW, BH3X20	

SCREWS & WASHERS

FIGURE & KEY NO.	PART NO.	RANK	Q'TY	DESCRIPTION	REMARKS
C59	XB1-2200-507		AR	SCREW, BH2X5	
C60	XB1-2301-607		AR	SCREW, BH3X16	
C61	XB1-2400-807		AR	SCREW, BH4X8	
C62	XB1-2200-807		AR	SCREW, BH2X8	
C63	XB1-7300-805		AR	SCREW, BH3X8	
D 1	XB2-3300-607		AR	SCREW WITH WASHER, PH3X6	
D 2	XB2-3300-807		AR	SCREW WITH WASHER, PH3X8	
D3	XB2-8300-607		AR	SCREW WITH WASHER, PH3X6	
D4	XB2-7300-607		AR	SCREW WITH WASHER, PH3X6	
E 1	XB3-1200-605		AR	SCREW, BH2X6	
E 2	XB3-2300-805		AR	SCREW, BH3X8	
E 3	XB3-2301-005		AR	SCREW, BH3X10	
E 4	XB3-2400-805		AR	SCREW, BH4X8	
F 1	XB4-6300-607		AR	SCREW, TAP, PH3X6	
F 2	XB4-6300-809		AR	SCREW, TAP, PH3X8	
F 3	XB4-7200-609		AR	SCREW, TAP, BH2X6	
F 4	XB4-7200-809		AR	SCREW, TAP, BH2X8	
F 5	XB4-7201-009		AR	SCREW, TAP, BH2X10	
F 6	XB4-7260-607		AR	SCREW, TAP, BH2.6X6	
F 7	XB4-7260-609		AR	SCREW, TAP, BH2.6X6	
F 8	XB4-7260-807		AR	SCREW, TAP, BH2.6X8	
F 9	XB4-7300-509		AR	SCREW, TAP, BH3X5	
F10	XB4-7300-605		AR	SCREW, TAP, BH3X6	
F11	XB4-7300-607		AR	SCREW, TAP, BH3X6	
F12	XB4-7300-609		AR	SCREW, TAP, BH3X6	
F13	XB4-7300-807		AR	SCREW, TAP, BH3X8	
F14	XB4-7300-809		AR	SCREW, TAP, BH3X8	
F15	XB4-7400-809		AR	SCREW, TAP, BH4X8	
F16	XB4-7401-007		AR	SCREW, TAP, BH4X10	
F17	XB4-7300-805		AR	SCREW, TAP, BH3X8	
F18	XB4-7301-007		AR	SCREW, TAP, BH3X10	
F19	XB4-7260-809		AR	SCREW, TAP, BH2.6X8	
F20	XB4-7301-209		AR	SCREW, TAP, BH3X12	
F21	XB4-7401-009		AR	SCREW, TAP, BH4X10	
F22	XB4-7201-207		AR	SCREW, TAP, BH2X12	
F23	XB4-7400-607		AR	SCREW, TAP, BH4X6	
F24	XB4-7301-009		AR	SCREW, TAP, BH3X10	
F25	XB4-7301-005		AR	SCREW, TAP, BH3X10	
G 1	XB6-1300-408		AR	SCREW, FP SET, SH3X4	
G 2	XB6-1300-409		AR	SCREW, FP SET, SH3X4	
G 3	XB6-2300-408		AR	SCREW, FP SET, SH3X4	
G 4	XB6-2300-409		AR	SCREW, FP SET, SH3X4	
G 5	XB6-2300-609		AR	SCREW, FP SET, SH3X6	
G 6	XB6-2400-408		AR	SCREW, FP SET, SH4X4	
G 7	XB6-2400-608		AR	SCREW, FP SET, SH4X6	

SCREWS & WASHERS

FIGURE & KEY NO.	PART NO.	RANK	Q'TY	DESCRIPTION	REMARKS
G 8	XB6-6300-605		AR	SCREW WITH WASHER, PH3X6	
G 9	XB6-6300-609		AR	SCREW WITH WASHER, PH3X6	
G10	XB6-7300-405		AR	SCREW, TP, PH3X4	
G11	XB6-7300-409		AR	SCREW, TP, PH3X4	
G12	XB6-7300-605		AR	SCREW, TP, PH3X6	
G13	XB6-7300-606		AR	SCREW, TP, PH3X6	
G14	XB6-7300-607		AR	SCREW, TP, PH3X6	
G15	XB6-7300-609		AR	SCREW, TP, PH3X6	
G16	XB6-7300-809		AR	SCREW, TP, PH3X8	
G17	XB6-7301-007		AR	SCREW, TP, PH3X10	
G18	XB6-7400-605		AR	SCREW, TP, PH4X6	
G19	XB6-7400-609		AR	SCREW, TP, PH4X6	
G20	XB6-7300-805		AR	SCREW, TP, PH3X8	
G21	XB6-7401-009		AR	SCREW, TP, PH4X10	
G22	XB6-2300-807		AR	SCREW, FP SET, SH3X8	
H 1	XB7-2100-405		AR	NUT M4	
H 2	XB7-2200-305		AR	NUT M3	
J 1	XD1-1103-133		AR	WASHER, SHIM M3.1	
J 2	XD1-1104-125		AR	WASHER, SHIM M4.1	
J 3	XD1-1104-133		AR	WASHER, SHIM M4.1	
J 4	XD1-1105-214		AR	WASHER, SHIM M5.2	
J 5	XD1-1106-231		AR	WASHER, SHIM M6.2	
J 6	XD1-1106-232		AR	WASHER, SHIM M6.2	
J 7	XD1-1109-715		AR	WASHER, SHIM M9.7	
J 8	XD1-2100-307		AR	WASHER, PLAIN M3	
J 9	XD1-2100-407		AR	WASHER, PLAIN M4	
J10	XD1-4100-302		AR	WASHER, TOOTHED, INNER M3	
J11	XD1-4100-402		AR	WASHER, TOOTHED, INNER M4	
J12	XD1-4200-302		AR	WASHER, TOOTHED, OUTER M3	
J13	XD1-4200-402		AR	WASHER, TOOTHED, LOCK M4	
K 1	XD2-1100-172		AR	WASHER, RETAINING 1.7MM	
K 2	XD2-1100-242		AR	WASHER, RETAINING 2.4MM	
K 3	XD2-1100-322		AR	WASHER, RETAINING 3.2MM	
K 4	XD2-1100-402		AR	WASHER, RETAINING 4.0MM	
K 5	XD2-1100-502		AR	WASHER, RETAINING 5.0MM	
K 6	XD2-1100-642		AR	WASHER, RETAINING 6.4MM	
K 7	XD2-1200-242		AR	WASHER, RETAINING 2.4MM	
K 8	XD2-1200-322		AR	WASHER, RETAINING 3.2MM	
K 9	XD2-1200-502		AR	WASHER, RETAINING 5.0MM	
K10	XD2-1200-642		AR	WASHER, RETAINING 6.4MM	
K11	XD2-2100-602		AR	RING, GRIP 6.0MM	
K12	XD2-2300-302		AR	WASHER, RETAINING 3.0MM	
K13	XD2-2300-402		AR	WASHER, RETAINING 4.0MM	
K14	XD2-2300-502		AR	WASHER, RETAINING 5.0MM	
K15	XD2-2300-602		AR	WASHER, RETAINING 6.0MM	

SCREWS & WASHERS

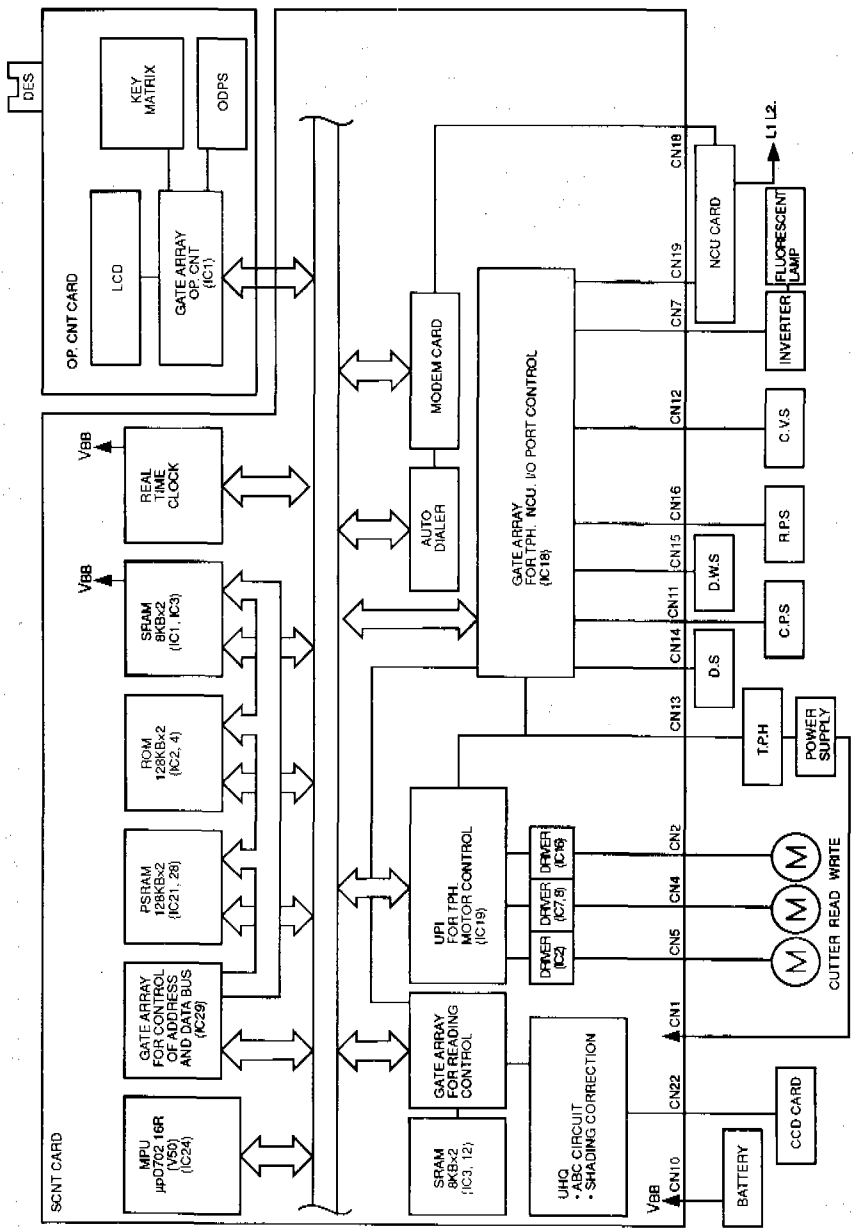
FIGURE & KEY NO.	PART NO.	RANK	Q'TY	DESCRIPTION	REMARKS
K16	XD2-2300-802		AR	WASHER, RETAINING 8.0MM	
K17	XD2-1100-422		AR	WASHER, RETAINING 4.2MM	
L 1	XD3-1160-162		AR	PIN, SPRING 1.6X16	
L 2	XD3-1200-102		AR	PIN, SPRING 2X10	
L 3	XD3-1300-142		AR	PIN, SPRING 3X14	
L 4	XD3-1300-162		AR	PIN, SPRING 3X16	
L 5	XD3-2100-082		AR	PIN, PARALLEL 1X8	
L 6	XD3-2100-602		AR	PIN, PARALLEL 1X60	
L 7	XD3-2200-082		AR	PIN, PARALLEL 2X8	
L 8	XD3-2200-102		AR	PIN, PARALLEL 2X10	
L 9	XD3-2200-162		AR	PIN, PARALLEL 2X16	
L10	XD3-2200-202		AR	PIN, PARALLEL 2X20	
L11	XD3-2200-252		AR	PIN, PARALLEL 2X25	
L12	XD3-2250-252		AR	PIN, PARALLEL 2.5X25	
L13	XD3-2300-082		AR	PIN, PARALLEL 3X8	
L14	XD3-2300-102		AR	PIN, PARALLEL 3X10	
L15	XD3-2300-122		AR	PIN, PARALLEL 3X12	
L16	XD3-2300-162		AR	PIN, PARALLEL 3X16	
L17	XD3-2300-182		AR	PIN, PARALLEL 3X18	
L18	XD3-2300-252		AR	PIN, PARALLEL 3X25	
L19	XD3-2300-142		AR	PIN, PARALLEL 3X14	
M1	XB5-6300-807		AR	SCREW, TP, PH3X8	

NUMERICAL INDEX

PART NUMBER	FIGURE & KEY No.	DESCRIPTION	PART NUMBER	FIGURE & KEY No.	DESCRIPTION
FS1-9009-000	130-1	TWO-STEP SCREW, M3	HA1-6560-000	100-31	REST, HANDSET (W)
HA1-0649-000	100-1	BAR, CONNECTION	HA1-6823-000	130-16	STAY, R.P. COVER UNIT
HA1-2030-000	131-1	BUSHING	HA1-6939-000	131-38	WASHER
HA1-2709-000	100-2	STACKER	HA1-8119-000	130-17	SCREW, M3
HA1-3026-000	131-3	BELT, FLAT (CR) TRANSMISSION	HA2-0212-000	100-11	PAD, RUBBER
HA1-3078-000	130-2	ROLLER	HA2-1103-000	100-12	BASE COVER
HA1-3079-000	130-3	ROLLER	HA2-1106-000	100-13	TERMINAL COVER
HA1-3083-000	130-4	SHAFT, SEPARATION ROLLER	HA2-1107-000	130-18	STAY, OPERATION PANEL
HA1-3560-000	130-5	SCREW	HA2-1108-000	100-14	INSULATED SHEET, NCU
HA1-3697-000	131-4	SCREW	HA2-1109-000	100-34	BLACKET, HANDSET REST
HA1-5254-000	100-3	HINGI PLATE	HA2-1110-000	100-15	SUB-TERMINAL COVER
HA1-5274-000	130-6	FEED ROLLER, DOCUMENT	HA2-1111-000	100-32	MODULAR COVER
HA1-5275-000	130-7	DELIVERY ROLLER, DOCUMENT	HA2-1114-000	100-12	BASE COVER
HA1-5278-000	130-8	SHAFT, ADF ROLLER	HA2-1126-000	100-16	SCREW
HA1-5279-000	130-9	ROLLER, SEPARATION	HA2-1128-000	130-19	DOCUMENT GUIDE, LOWER
HA1-5283-000	131-5	CUTTER GEAR	HA2-1129-000	131-9	PLATEN ROLLER
HA1-5286-000	130-10	SHAFT, SEPARATION SUB-ROLLER	HA2-1130-000	131-10	DELIVERY ROLLER (1)
HA1-5290-000	130-11	CONTACT, FLUORESCENT LAMP	HA2-1131-000	131-11	CATCHER REC. PAPER
HA1-5293-000	131-6	LOCK STAY	HA2-1132-000	131-12	LOWER PLATE, CHASSIS
HA1-5294-000	131-7	CATCHER	HA2-1133-000	130-20	SUPPORTER
HA1-5296-000	130-12	BELT, FLAT (CR) TRANSMISSION	HA2-1136-000	131-13	SHEET, RECORDING PAPER
HA1-5298-000	100-4	CHASSIS STAY	HA2-1137-000	131-14	STOPPER, SPRING
HA1-5310-000	131-8	RPS COVER	HA2-1139-000	131-15	LEVER, DECURL UNIT
HA1-5323-000	110-1	SPRING, BACK UP ROLLER	HA2-1140-000	100-17	HOLDER,NCU CARD
HA1-5324-000	110-2	STAY, BACK UP SPRING	HA2-1154-000	110-14	DOCUMENT GUIDE, UPPER
HA1-5325-000	110-3	SUB SEPARATION GUIDE	HA2-1161-000	110-23	COVER, OPERATION PANEL
HA1-5326-000	110-4	WHITE SHEET	HA2-1163-000	110-15	LCD COVER
HA1-5327-000	110-5	ROLLER, BACK-UP	HA2-1164-000	110-16	KEY TOP (FUNCTION KEY)
HA1-5328-000	110-6	SHAFT, BACK UP ROLLER	HA2-1165-000	110-17	KEY TOP (TEN KEY)
HA1-5329-000	110-7	SEPARATION GUIDE	HA2-1166-000	110-18	START KEY
HA1-5330-000	110-8	SHAFT, SEPARATION GUIDE	HA2-1167-000	110-19	STOP KEY
HA1-5331-000	110-9	SHAFT, SUB SEPARATION GUIDE	HA2-1168-000	110-20	START/STOP KEY
HA1-5332-000	110-10	ELIMINATOR, STATIC CHARGE DOC	HA2-1169-000	110-21	KEY TOP (ONE-TOUCH KEY)
HA1-5333-000	110-11	POLYESTER SHEET	HA2-1170-000	110-22	FUNCTION SHEET (ENGLISH)
HA1-5334-000	110-12	SHIELD PLATE, OP. CNT CARD	HA2-1171-000	110-23	COVER, OPERATION PANEL (AE)
HA1-5341-000	120-1	PAPER FEED ROLLER	HA2-1172-000	110-23	COVER, OPERATION PANEL (GER)
HA1-5342-000	120-2	SPRING, COVER (LEFT)	HA2-1173-000	110-22	FUNCTION SHEET (GERMAN)
HA1-5343-000	120-3	SPRING, COVER (RIGHT)	HA2-1174-000	110-24	COVER, ONE-TOUCH KEY
HA1-5344-000	120-4	SHAFT, HINGE	HA2-1175-000	110-24	COVER, ONE-TOUCH KEY
HA1-5348-000	130-14	POLYESTER SHEET	HA2-1179-000	120-7	COVER, TPH UNIT
HA1-5350-000	110-13	SHIELD PLATE3, OP. CNT CARD	HA2-1181-000	120-8	COVER, REC. PAPER
HA1-5361-000	100-5	SHIELD PLATE1, SCNT	HA2-1182-000	120-9	RECORDING PLATE
HA1-5363-000	130-13	INSULATED SHEET, CCD	HA2-1183-000	120-10	LOCK LEVER
HA1-5365-000	130-40	SUB ROLLER, EJECT	HA2-1184-000	120-11	SLIDER (RIGHT)
HA1-5366-000	100-6	SHIELD PLATE2, SCNT	HA2-1185-000	120-12	SLIDER (LEFT)
HA1-5380-000	100-7	HEAT SINK, MODEM CARD	HA2-1186-000	120-13	STAY (RIGHT), DECURL SHAFT
HA1-5381-000	100-8	CUSHION, MODEM CARD	HA2-1187-000	120-14	SYAY (LEFT), DECURL SHAFT
HA1-5382-000	100-9	SHIELD, MODEM CARD	HA2-1188-000	120-15	DECURL SHAFT
HA1-5981-000	120-5	CONNECTOR STOPPER (32MM)	HA2-1189-000	120-16	SHAFT, LOCK LEVER
HA1-5982-000	120-6	CONNECTOR STOPPER (22MM)	HA9-0121-000	100-28	SCREW,M3X10
HA1-6412-000	130-15	COVER STAMP UNIT	HF1-0455-000	130-21	BRACKET, READ MOTER
HA1-6536-000	100-10	CARD SUPPORTER	HF1-0458-000	130-22	LOCK SPRING

PART NUMBER	FIGURE & KEY No.	DESCRIPTION
HF1-0755-000	130-23	SUB ROLLER, SEPARATION
HF1-1005-000	100-18	HOLDER, RECORDING PAPER
HF1-1006-000	131-16	BRACKET, REC. MOTOR
HF1-1007-000	131-17	BRACKET, CUTTING MOTOR
HF1-1008-000	100-19	UPPER COVER UNIT
HF1-1010-000	100-19	UPPER COVER UNIT
HF1-1034-000	100-19	UPPER COVER UNIT
HF1-1035-000	100-19	UPPER COVER UNIT
HF1-1036-000	131-18	DELIVERY ROLLER
HG1-1861-000	130-24	DOCUMENT SENSOR UNIT
HG1-1862-000	130-25	SCANNING UNIT
HG1-1865-000	110-25	OP. CNT CARD UNIT
HG1-1874-000	131-19	RECORDING PAPER SENSOR UNIT
HG1-1882-000	100-20	NCU CARD UNIT (EC)
HG1-1883-000	100-20	NCU CARD UNIT (EC)
HG1-2128-000	100-20	NCU CARD UNIT
HG1-2185-000	100-29	HANDSET UNIT (USA,AG)
HG1-2209-000	110-25	OPCNT CARD UNIT
HG1-2657-000	100-29	HANDSET UNIT
HG1-2694-000	100-21	SCNT CARD UNIT
HG1-2695-000	100-21	SCNT CARD UNIT
HG1-2696-000	100-21	SCNT CARD UNIT
HG1-3068-000	100-20	NCU CARD UNIT
HG1-3346-000	131-20	DECURL UNIT
HG1-3347-000	110-	OPERATION PANEL
HG1-3350-000	120-17	TPH UNIT
HG1-3351-000	110-	OPERATION PANEL
HG1-3352-000	110-	OPERATION PANEL
HG9-0284-000	130-26	COVER, SCANNING UNIT
HG9-0367-000	131-21	CUTTER UNIT
HH2-1260-000	100-22	MODULAR CORD
HH2-1541-000	140-Ca1	CONNECTER WITH WIRE, 25P
HH2-1543-000	140-Ca2	CONNECTER WITH WIRE, 8P
HH2-1546-000	140-Ca3	CONNECTER WITH WIRE, 2P
HH2-1550-000	140-Ca4	CONNECTER WITH WIRE,15P
HH2-1551-000	140-Ca5	CONNECTER WITH WIRE, 9P
HH2-1556-000	100-33	MODULAR CONNECTER
HH2-1693-000	100-23	MODULAR JACK
HH2-1695-000	100-33	MODULAR CONNECTER
HH2-1703-000	100-30	CORD, COILED (A.G)
HH2-1712-000	100-23	MODULAR JACK
HH2-2074-000	100-22	MODULAR CORD (GERM)
HH2-2089-000	140-Ca6	CONNECTER WITH WIRE, 12P
HH2-2145-000	100-23	MODULAR JACK
HH3-5217-000	100-24	POWER SUPPLY UNIT
HH3-5219-000	100-24	POWER SUPPLY UNIT
HH3-5224-000	100-24	POWER SUPPLY UNIT
HH4-1943-000	140-IC4	MASK ROM uPD23C1001EC-514(H)
HH4-1944-000	140-IC2	MASK ROM uPD23C1001EC-515(L)
HH4-1947-000	140-IC4	MASK ROM uPD23C1001-525(H)
HH4-1948-000	140-IC2	MASK ROM uPD23C1001-526(L)
HH4-1951-000	140-IC4	MASK ROM uPD23C1001EC-550
HH4-1952-000	140-IC2	MASK ROM uPD23C1001EC-551
HH7-1341-000	100-25	MODEM CARD UNIT
HH7-1441-000	130-27	STEPPING MOTOR (READ)
HH7-1443-000	131-22	STEPPING MOTOR (CUTTER)
HH7-1454-000	130-28	INVERTER
HH7-1457-000	100-26	BATTERY UNIT, LITHIUM
HH7-1458-000	130-29	SPEAKER
HH7-1755-000	131-24	MICRO SWITCH
HH7-1938-000	131-23	STEPPING MOTOR
HN1-4039-000	130-30	DOCUMENT GLASS
HS1-0172-000	130-31	GEAR, 19-27T
	131-25	GEAR, 19-27T
HS1-0173-000	120-18	GEAR
HS1-0290-000	131-26	GEAR, 25-79T
HS1-0291-000	131-27	GEAR, 43-73T
HS1-0292-000	131-28	GEAR, 29T
HS1-0294-000	131-29	GEAR, 27-47T
HS1-1017-000	130-32	BUSHING, 6MM
HS1-1030-000	120-19	BUSHING, 4MM
HS1-1048-000	131-30	BUSHING
HS1-1065-000	131-31	BUSHING
HS1-2062-000	130-33	SPRING, CLUTCH
HS1-2186-000	130-34	SPRING
HS1-2187-000	131-32	SPRING
HS1-2188-000	110-26	SPRING
HS1-2189-000	110-27	SPRING
HS1-2190-000	120-20	SPRING, T.P.H.UNIT
HS1-2191-000	120-21	SPRING, CLUTCH
HS1-2192-000	120-22	SPRING, CLUTCH
HS1-2216-000	131-33	SPRING
HS1-2280-000	131-34	SPRING
HS1-3057-000	130-35	PULLEY, 25T-139T-M17
	131-35	PULLEY, 25T-139T-M17
HS1-3058-000	130-36	PULLEY, 15T-M17
HS1-9007-000	130-37	SCREW
WC4-0228-000	131-36	MICRO SWITCH
WC4-0229-000	120-23	DWS UNIT
WE8-0100-000	131-37	FERRITE
WG1-0504-000	130-38	FLUORESCENT LAMP
WT3-9095-000	100-27	CORD, POWER SUPPLY
XF9-0284-000	130-39	COGGED BELT M95T

1 BLOCK DIAGRAM



2 SENSOR

2.1 Sensors

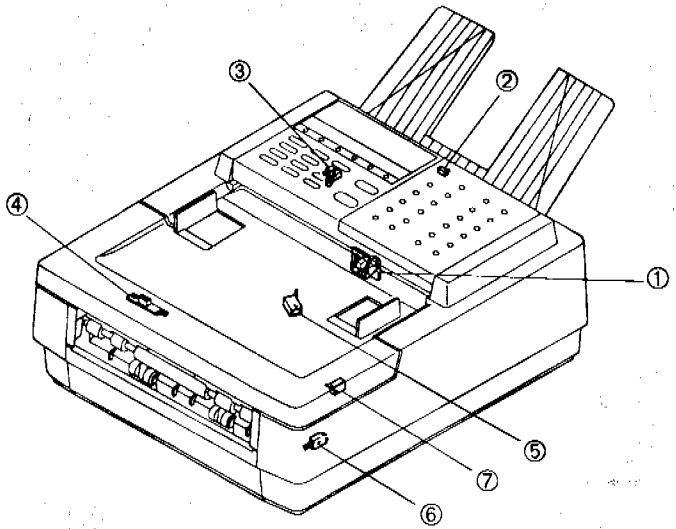


Fig. 7-1 Sensor sketch

Tab. 7-2-1 Sensor type

No.	Sensor name	Abbreviation	Part number (replacement unit)	Type	Use
①	Document sensor	DS	HG1-1861-000	Photointerrupter	Document setting detection
②	One touch dial panel sensor	ODPS	WC4-0164-000	Microswitch	One-touch dial panel open/close detection.
③	Document edge sensor	DES	WG8-0290-000	Photointerrupter	Document top or end
④	Recording paper sensor	RPS	HG1-1874-000	Photointerrupter	Recording paper present/absent and Black end detection
⑤	Document width sensor	DWS	WC4-0229-000	Photointerrupter	Document width
⑥	Cutter position sensor	CPS	WC4-0228-000	Microswitch	Cutter home position detection
⑦	Cover sensor	CVS	HH7-1755-000	Microswitch	Recording paper cover opening or closing detection

2.2 Sensor Output Check

2.2.1 Sensor check in test mode

Each sensor can be checked in the test mode (selected by SSSW). Confirm that each sensor displays the correct information on the LCD corresponding to each operation.

2.2.2 Output check by using the tester

The tester checks the output levels at the check points listed in the table.

Remarks: Note that the patterns and devices may not be stapped when using the tester to check the output levels.

Tab. 7-2-2 Sensor Output Check

No.	Sensor	Check operation and conditions	LCD	Output level	Checkpoint
1	DS	Document provided	on	Above 3.0V	SCNT card IC18 59pin
		Document not provided	off	Below 0.4V	
2	ODPS *1	The one-touch dial panel is open	—	Above 2.0V Below 0.8V	OP.CNT card IC1 28pin
		The one-touch dial panel is closed			
3	DES	Document provided (DES position)	—	Above 3.0V	SCNT card IC18 60pin
		Document not provided	off	Below 0.4V	
4	RPS	Recording paper provided	on	Above 3.4V	SCNT card IC33 2pin
		Recording paper not provided *2	off	Below 0.4V	
5	DWS	The slider switch is set to A5	A5	Below 0.4V	SCNT card IC18 61pin
		The slider switch is set to LET	A4	Above 3.0V	
6	CPS	The cutter is located in the home position	on	Below 0.4V	SCNT card IC18 27pin
		The cutter is not located in the home position	off	Above 3.0V	
7	CVS	The recording paper cover is open	off	Above 3.0V	SCNT card IC18 21pin
		The recording paper cover is closed	on	Below 0.4V	

*1: ODPS = One touch Dial Panel Sensor
*2: Keep the recording paper cover closed

3 NEW FUNCTION

3.1 Error Correction Mode (ECM)

The ECM is an error correction method in compliance with CCITT recommendations, and assures image transmission and reception free of line skips.

3.1.1 Outline

In the ECM method, image data is divided into blocks, which are then separated into frames, and transmitted to the receiver. The receiver judges frame by frame if there is an error in the transmitted image, and the process is repeated until the end of one block. If there is an error frame, retransmission of that frame will be requested to the transmitter after reception of one block is completed.
The transmitter retransmits only the error frame, and after proper transceiving of image data is confirmed, the transmitter starts sending the next block.

3.1.2 Specifications

1. Communication type: half duplex
2. Image signal configuration: HDLC configuration
   MH/MR coded iamge signals are divided into prescribed unit frames and housed in HDLC data field.
3. Frame size: 256 bytes/64 bytes (selectable with SSSW)
4. Block size: 256 frames
5. Error detection system: CRC check and check of frame number continuity.
6. ECM binary signals: Shown in the table next page.

Tab. 7-3-1 ECM binary signals

Abbreviation	Function	Signal format
CTC	Continue to correct	X100 1000
CTR	Response for continue to correct	X010 0011
EOR	End of retransmission	X111 0011
ERR	Response for end of retransmission	X011 1000
PPR	Partial page request	X011 1101
PPS	Partial page signal	X111 1101
RNR	Receive not ready	X011 0111
RR	Receive ready	X111 0110

7. Others
   a. Since the ECM is in compliance with CCITT recommendation, it is possible to communicate with other manufacturer's machines in this mode.
   b. The transmission speed may vary according to the line conditions. (The transmission time is prolonged due to frequent occurrence of error.)
   c. Even in ECM communication, image error and communication error may arise due to the line conditions.

3.1.3 Outline of control sequences

1. Both transmitter and receiver declare in the preliminary process that they have the ECM fnction
2. If error occurs in the transmitted image data, the receiver requests for retransmission of the error frame by PPR.
3. The transmission side retransmits only the error frame in response to the retransmission request

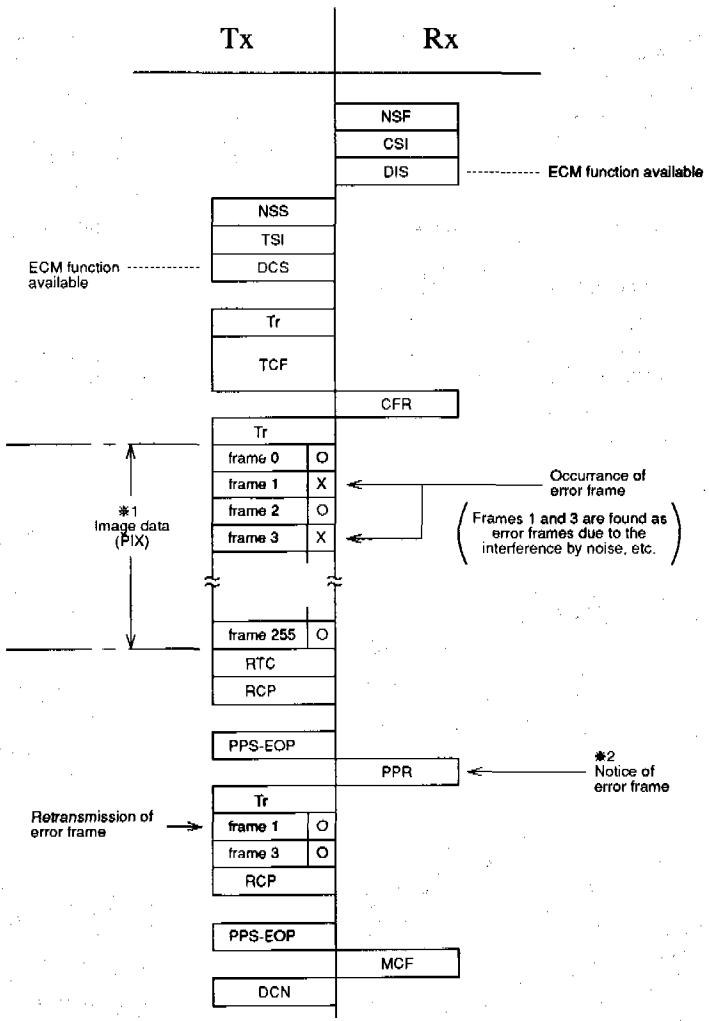
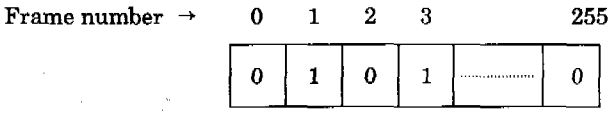


Fig. 7-3-1

*1. The image data is transmistted within one block (64K bytes).
*2. Error image is notified using PPR binary data. (data stored in FIF of PPR)



3.2 New Reading Method

The new reading method allows high quality reproduction of text with photo images well as character images.
With this method, analog signals read through CCD are digitalized into binary data, black and white. Main image processing by this method incorporates edge emphasis and error diffusion.
The following elucidates the process flow under the method.

3.2.1 Image data flow with new readout method

(See block diagram of reading system in the new method)
Image signals (analog signals) ready by CCD are sent to the SCNT card via Amp. Image signals sent to the SCNT card undergo ABC and shading correction (electrical correction) at the analog circuit, then are converted to digital signals by the A/D converter. The converted image data is sent to the new edge emphasis processing component. Normally, the resolution of signals read by CCD is low. If image data of low resolution is converted as such to binary, it can cause image scratches or distortions. At the new edge emphasis component, a high-pass emphasis filter is used to compare the luminance level of the viewing pixel (pixel about to be made binary) with that of reference pixels (pixels surrounding the viewing pixel), and results are computed by software. A viewing pixel lighter than surrounding reference pixels is converted into a pixel lighter than the original viewing pixel, and a viewing pixel darker than surrounding reference pixels is converted to a pixel darker than the original viewing pixel. By using the output as image data, the edges of the image are emphasized, resulting in an improvement in both horizontal and vertical scanning resolutions.

As shown in Fig. 7-3-2, for example, if the density of the main pel is darker than that of the sub pels, the main pel can be more darkly expressed, whereas if the main pel is lighter, it can be more lightly expressed.

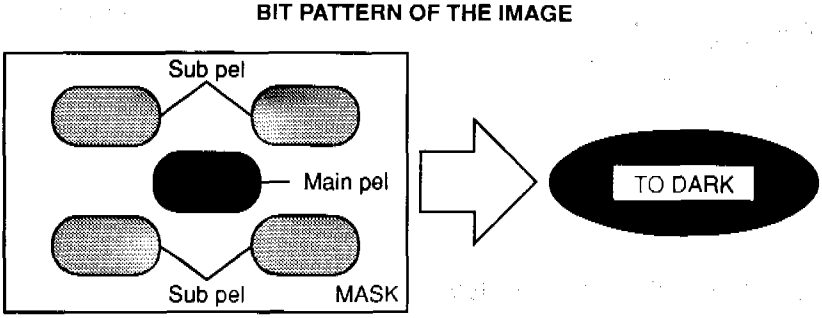


Fig. 7-3-2 When the main pel has darker density than the sub pels.

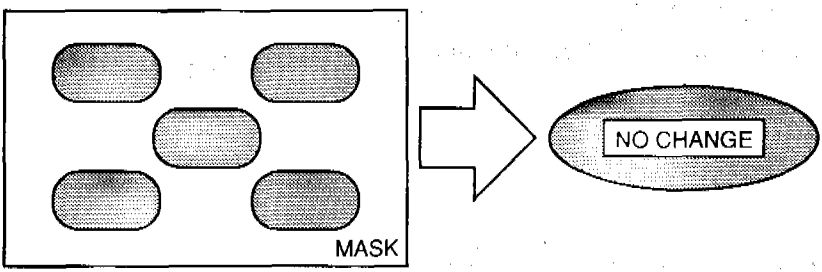


Fig. 7-3-3 When the main and sub pels have even density.

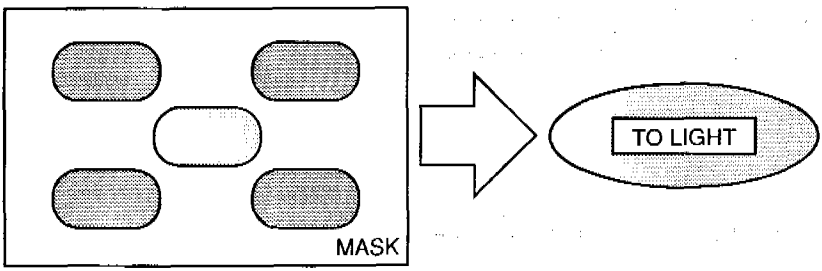


Fig. 7-3-4 When the main pel has lighter density than the sub pels.

The images of improved resolutions are then sent to the image data reduction component. Here, document (transmitted document and copied document) size is processed according to the size of the set recording paper as equivalent, A3 to B4, B4 to A4, or A3 to A4. Processing takes place by thinning out of multivalued data. The Half-tone key on the operating panel is used to select pure binary (letter document) or half-tone (letter & photo mixed document).
In this case of pure binary (letter document) selection, output data from the image reduction component is converted into binary values (black or white) by the slice level, then output 1 bit at a time from the new image processor.
In the case of half-tone selection, output data of the image reduction component undergoes density conversion by the brightness → density conversion table, and the converted density data is sent to the (error scattering) component. Here the (error diffusion method) is used to convert density data into binary (black and white), and this data is then output 1 bit at a time from the new image processor (gate array).
The per-bit serial data thus made binary undergoes serial to parallel conversion by a separate gate array, then is loaded into system RAM via DMA transmission.

3.2.2 Error diffusion method

The error diffusion method works by diffusing the error between the original picture and output picture (difference of density) onto the adjacent picture elements. By diffusing error generated during binary processing onto the adjacent picture elements, smooth images close to the original picture can be assured. The error diffusion method works on the following principle.
For simplicity, only the main scanning direction will be explanied here.
Fig. 7-3-5 shows the examples of the above, describing images after subjected to simple binary treatment both in the dither method and error diffusion method using an original image whose density gradually becomes thicker from the right to the left side. It can be clearly seen that the density in the dither method changes by steps -4×4 matrix units, because the slice level is patternized by matrix units.
Therefore, the iamge inevitably changes following its pattern.
Meanwhile, with the error diffusion method, a simple binary process takes place irrespective of the specific matrix, but based on the adjacent pels as shown in the figure, thus assuring more close reproduction of the original image.

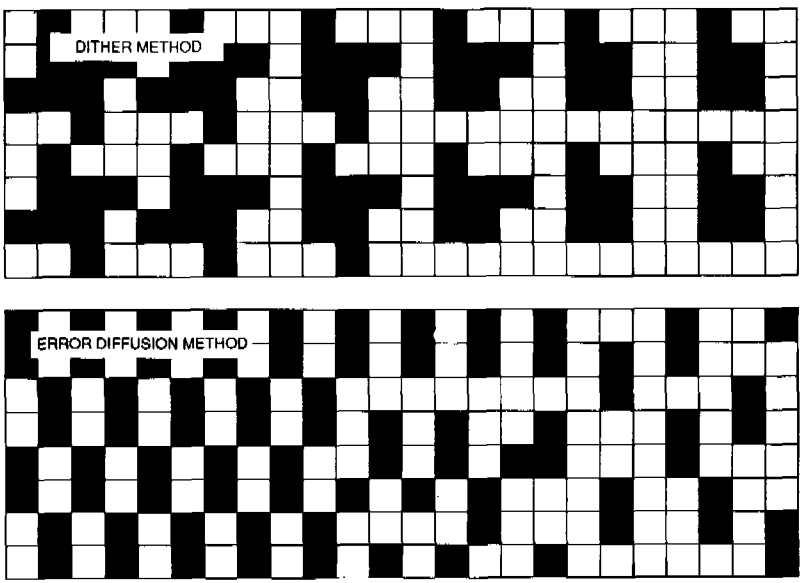


Fig. 7-3-5 Error diffusion

Since there is no determined pattern of image processing such as (dither matrix) in this method, there is no restriction on the number of gradations and slice level processing occurs depending on the pixel value of each individual pixel. Consequently, by using the error diffusion method for image processing, high- quality images close to the original images can be processed, which are smoother than those from dither matrix processing, even with documents which have letters and photos mixed.

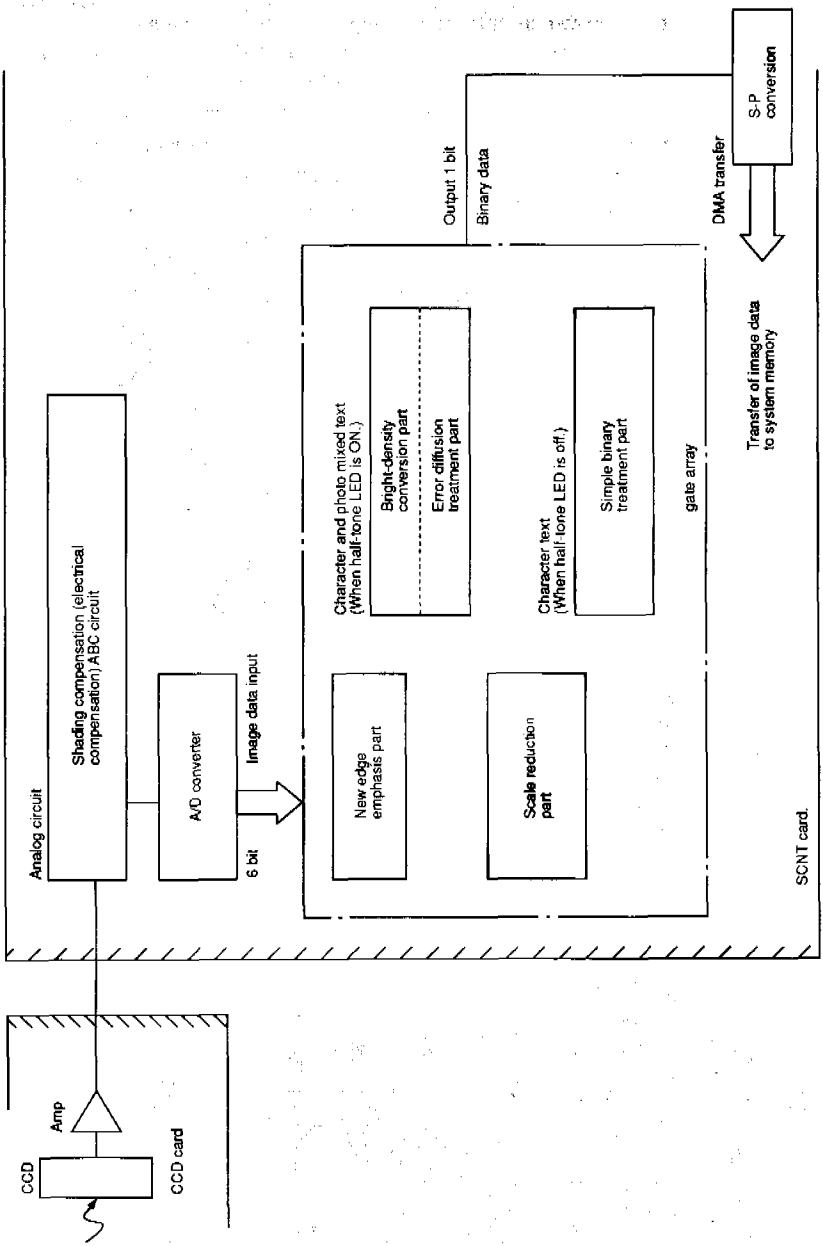


Fig. 7-3-6 Reading process block diagram under the new reading method

3.3 FAX/TEL Auto Switching

3.3.1 Voice detecting

This function allows automatic selection of either FAX or TEL mode on the transmission side by taking advantage of the voice recognition function.
This function is to be turned on/off under "FAX/TEL Auto SW" in the user soft SW.
The following describes the sequences in FAX/TEL auto switching mode.

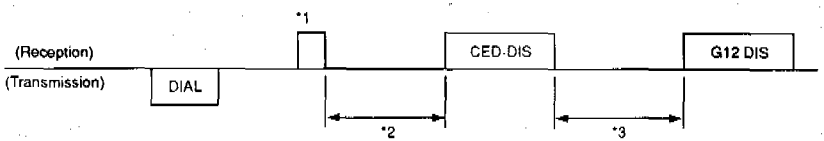


Fig. 7-3-7

*1 Tone signal is transmitted for 300ms. in 2100Hz
*2 Voice reception is checked for 3 sec. after the transmission of the 2100Hz tone signal up to CED.
*3 Voice reception check is also carried out in the interval before the retransmission of DIS. (during T1 timer)

The sequences when the voice is detected, and when handshaking signals (G2, G3) are detected in the above checking, will be as follows:

1. When the voice is detected:

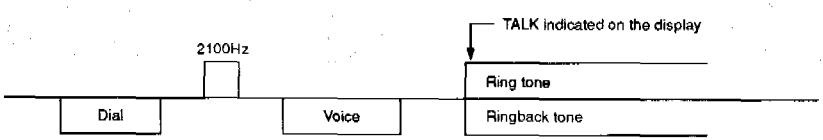
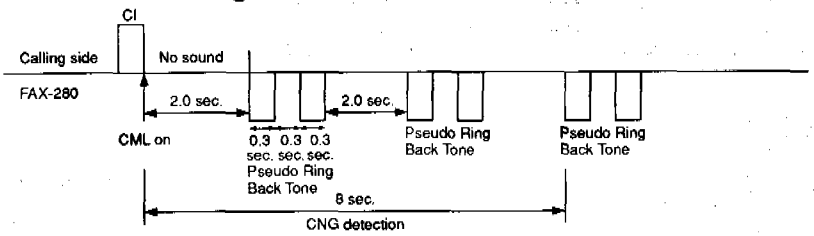


Fig. 7-3-8

3.3.2 CNG detecting



1. Turn on the CML relay at the first CI and monitor the CNG without sound for 2 seconds.
2. After 2 seconds, monitor the CNG for 6 seconds while transmitting pseudo Ring Back Tone to the line.

Fig. 7-3-11

a. When detecting CNG

Immediately switches to FAX reception mode when detecting CNG.

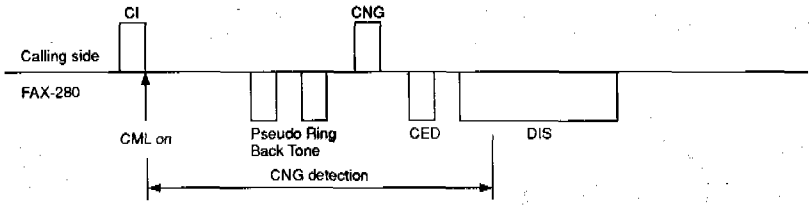


Fig. 7-3-12

b. When not detecting CNG for 8 seconds

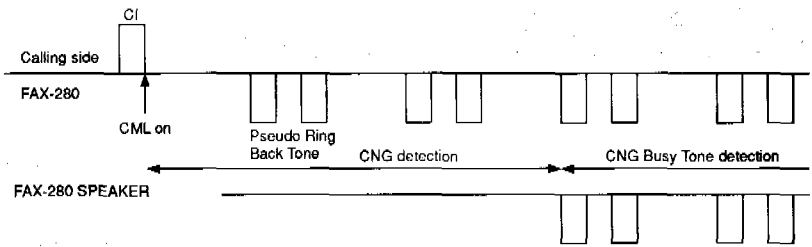


Fig. 7-3-13

1. Ring the pseudo calling sound from the speaker while transmitting pseudo Ring Back Tones for 8 seconds.
2. After the first pseudo calling sound, detection of Busy Tone is also performed to add to the CNG detection (for 35 seconds).
3. Immediately switch to FAX reception mode when detecting CNG, and immediately release the line when detecting a Busy Tone.

Note 1: Since CNG and Busy Tone detection is not performed while transmitting the pseudo Ring Back Tone, strictly speaking, the detection is performed only the "(D)" parts shown in the figure below.

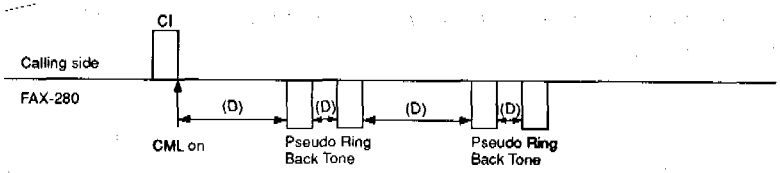


Fig. 7-3-14

Note 2: The CNG is not transmitted in manual transmission mode. Due to this, FAX/TEL switching is not possible with the CNG detecting method.

3.4 Activate remote reception (120V model only)

This function switches reception to automatic if the handset or remote telephone is on-hook or hooking is performed during manual reception.
If a facsimile machine configured as shown on the right, receives a ringing signal when its handset is off-hook, and if the other facsimile machine is in automatic transmission mode (CNG is transmitted), then the reception mode of this machine is switched from manual to automatic without the START key being pressed when its handset or remote telephone is on-hook or hooking is performed. This function is valid only during manual reception.

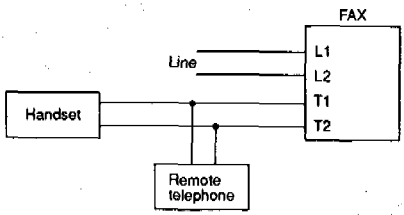


Fig. 7-3-15

The function is selected by the "Remote reception" user soft switch and service soft switch #1 SW11 bit 0 "Remote reception method". The procedure for remote reception is as follows:

3.4.1 On-hook

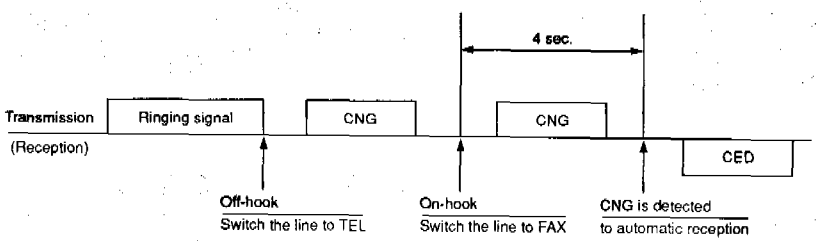


Fig. 7-3-16

1. After off-hook, listen for CNG, confirm that the caller is a facsimile machine, and hang up.
2. Once the handset has been hung up, the CNG check starts (four seconds).
3. If CNG is detected, the facsimile machine switches to automatic reception; if not, the line is disconnected.

3.4.2 Hooking

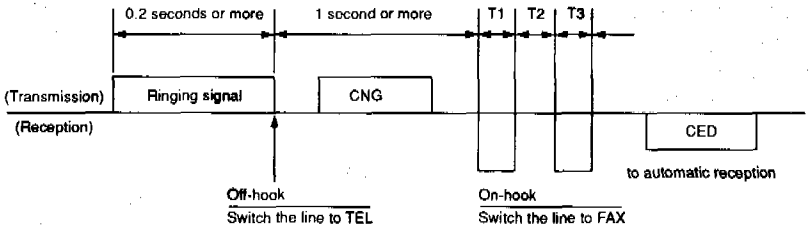
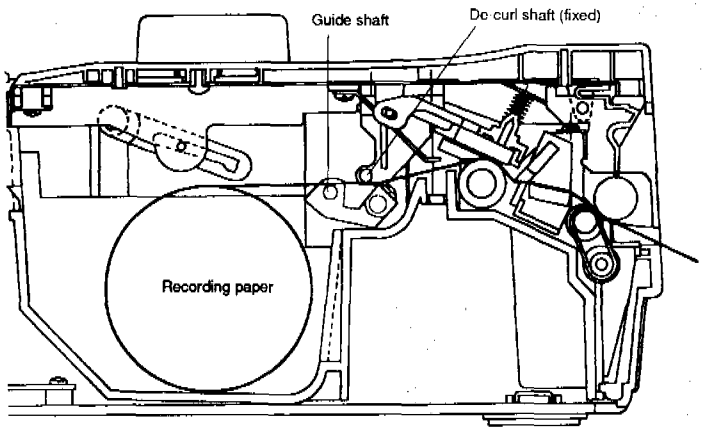


Fig. 7-3-17

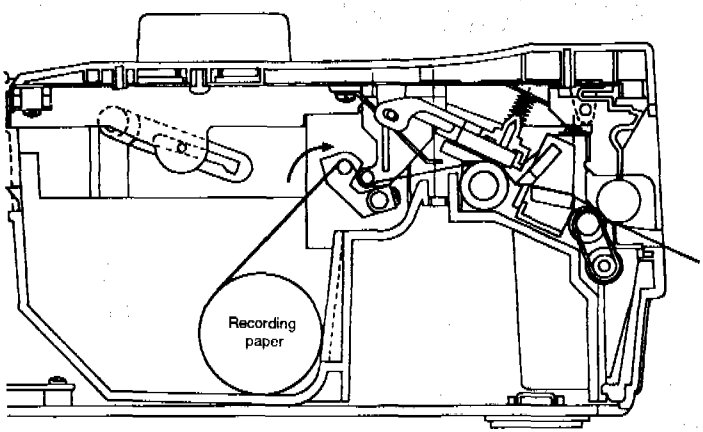
1. CI is detected for 0.2 seconds or more.
2. Off-hook is performed for 1 second or more.
3. Hooking twice. The timing of the hooking is as follows:
   0.1sec ≦ T1=T3 ≦ 0.8sec
   0.1sec ≦ T2 ≦ 1.0sec
4. CED is transmitted, and the facsimile machine switches to automatic reception.

3.5 Recording Paper De-curl Function

The recording guide shaft, unit de-curl shaft, and guide shaft, remove the curl from recording paper.
As shown in the figures below, the de-curl shaft draws the recording paper in the opposite direction of its curl, thereby straightening it. The guide shaft shifts according to the roll diameter, so that, as the diameter changes, the straightening capability matches the degree of curl in the paper, avoiding too much, or too little compensation.



A Large-diameter roll



B Small-diameter roll

Fig. 7-3-18